Kenney and Clay Woods Additions to Lind-McGeachie Preserve
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 does an independent check of all documents and compliance with the Protocol known as verification.

The Protocol Requirements at the end of this document are a list of eligibility requirements for informational purposes which are also found in more detail in the CFC Tree Preservation Protocol Version 12.40, dated February 22, 2023.

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

Below is a list of documents that are needed to complete a successful project:

- *Geospatial Location Map*
- *Regional Map*
- *Project Area Map*
- *Proof of Land Ownership or Agreement to Transfer Credits*
- *Preservation Commitment*
- *Land Use Regulations*
- *Land Use/Zoning Map*
- *Overlay Zones or Restrictions*
- *Threat of Loss Demonstration*
- *Attestation of No Double Counting and No Net Harm*
- *Attestation of Additionality*
- *Carbon Quantification Calculator*
- *Plot Sampling Map (if relevant)*
- *Sampling Raw Data*
- *Carbon Biomass calculations*
- *i-Tree Eco file*
- *Forest Composition*
- *Co-Benefit Quantification Calculator*
- *iTree Canopy Report*
- *Social Impacts*

PROJECT OVERVIEW

Project Name: Kenney and Clay Woods Additions to the Lind-McGeachie Preserve
Project Number: 045
Project Type: Preservation Project (under the Tree Preservation Protocol – version 12.40, dated February 22, 2023)
Credit Commencement Date: December 7, 2023
Project Location: Rockford Township, Illinois

Project Operator Name: Natural Land Institute
Project Operator Contact Information: Alan Branhagen, Executive Director, 815-964-6666, abranhagen@naturalland.org

Project Description:
Describe overall project details and goals as summarized in application. Include information about where the Project is located, Project Area acreage and other relevant background. If the Project Area is part of a larger program or preservation effort, include one sentence with more information (2 paragraphs).

The Kenney and Clay Woods Additions to the Lind-McGeachie Preserve Preservation Project (the Project) are a 47.67-acre wooded Project Area on a 55.72 acre, two parcel addition that is part of a larger complex of protected lands. Natural Land Institute (NLI) is seeking to preserve the forest, creating substantial conservation and community benefits including carbon sequestration, wildlife habitat and open space protection. The surrounding land is facing a continued threat of urban expansion from the City of Rockford.

Preservation of the Project is important as our urban wooded lands are becoming increasingly fragmented and rare in Winnebago County due to urban development pressures and agricultural development.

The Project has dry-mesic upland Oak Hickory forest consisting of *Carya ovata* (shagbark hickory), *Ostrya virginiana* (ironwood), *Quercus alba* (white oak), *Quercus rubra* (red oak), *Quercus velutina* (black oak), and *Viburnum prunifolium* (black-haw). The wet-mesic floodplain forest on the east side is predominantly *Acer saccharinum* (silver maple), *Celtis occidentalis* (hackberry), *Fraxinus pennsylvanica* (green ash), *Quercus macrocarpa* (burr oak), and *Ulmus americana* (American elm). The project is zoned Agriculture but it hasn't been farmed for several decades.

DEFINING THE PROJECT AREA (Section 1.3 and 1.4)

Project Area Location
Describe the city, town, or jurisdiction where the Project is located. State which urban location criteria is met from Protocol Section 1.3.

The project is located in Rockford Township, unincorporated City of Rockford, and is within the boundaries of the Region 1 Planning Commission (R1PC) for Rockford, Illinois

Project Area Parcel Information
List parcel(s) in the Project Area.

Municipality	**Parcel Number**	**Notes** *Include total acres and acres included in Project Area*
Rockford Township	15-20-126-016	32.57 acres out 35.67 acres
Rockford Township	Part of 15-19-253-001 New PIN: 15-19-253-003	15.10 acres out of 20.05 acres
	Total Project Area	47.67 acres out of 55.72 acres

Project Area Maps
Provide three maps of the Project Area that illustrate the location: geospatial location, regional, and detailed. Maps should include project title, relevant urban or town boundaries, defined Project Area, and legend.

- Geospatial Location Map
  Show the boundaries of the Project Area in a KML, KMZ, or shapefile format
  Attachment: 1 NLI Kenney Clay Shapefile

- Regional Map
  Show where the Project Area is located in relation to the state and/or region
  Attachment: 2 NLI Kenney Clay Regional Map

- Detailed map of Project Area
  Show the Project Area and parcel boundaries.
  Attachment: 3 NLI Kenney Clay Project Area Map

OWNERSHIP OR ELIGIBILITY TO RECEIVE POTENTIAL CREDITS (Section 1.5)

Project Operator must demonstrate ownership of potential credits or eligibility to receive potential credits. If Project Operator is the landowner, attach a deed showing ownership and explanation of when the property was acquired. If the Project Operator is not the landowner, provide the Agreement between Project Operator and landowner authorizing Project Operator to execute this project.

Name of landowner of Project Area and explanation

The Natural Land Institute is the landowner and the Project Operator. The Kenney parcel was purchased by the Natural Land Institute on May 25, 2023 and the Clay Woods parcel was purchased on November 30, 2023. The Natural Land Institute is a 501(c)3 Conservation Land Trust that has encumbered the Project Area with deed restrictions for each parcel which prohibits development on the site and explicitly protects the trees from removal as per City Forest Credit's Protocol (see Preservation Commitment section).

Attachments: 4 NLI Kenney Clay Deeds

PROJECT DURATION (Section 2.2)

Project Operator commits to the 40- or 100-year project duration requirement through a signed Project Implementation Agreement with City Forest Credits and agrees to the statement below.

Project Operator has committed to the 40 year project duration and signed a Project Implementation Agreement with City Forest Credits on August 17, 2023.

PRESERVATION COMMITMENT (Section 4.1)

Describe the Preservation Commitment terms and attach 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: 40 years

Date recorded: December 7, 2023

Preservation Commitment Explanation: Natural Land Institute (NLI) purchased the 35.67-acre Kenney parcel in May 2023 and the Clay Woods parcel in November 2023 to expand Lind-McGeachie Preserve to protect a larger intact forest canopy and protect the water quality of Silver Creek. After NLI secured the property, it wished to protect the trees from removal via carbon crediting and add it to the existing Lind-McGeachie preserve, the initial extent of which was previously enrolled as a carbon project under the City Forest Credits Tree Preservation Protocol (Fitzgerald Road Preservation Project, Project Number 036).

The Project Area for the current Project consists of 47.67 acres of the 55.72- acre additions to the existing Lind-McGeachie Preserve. Deed restrictions (Declaration of Development Restrictions) with clear protection of the trees on these two parcels were recorded on December 7, 2023 for both parcels. This preservation commitment ensures uniform and effective stewardship as the deed terms will align with the goals and objectives set forth in the protocol. Specific language in paragraph 1 of the recorded deed restriction titled Declaration of Development Restrictions states:

> *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.

Attachments: 5 NLI Kenney Deed Restriction

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

Demonstrating the Threat of Loss is shown in several ways: land use designation that allows a non-forest use, overlay zones, existing restrictions, and one of three conditions that illustrate pressure to convert the Project Area to a non-forest use.

Land use designation

Describe the land use designation, including what types of non-forest use it allows. Attach a copy of the relevant land use designations, which may include development regulations such as zoning ordinances. Include a map depicting the designation of the relevant municipality, with the Project Area boundaries clearly indicated on the map.

The Agricultural Priority (AG) zoning provides for a non-forest use. The Winnebago Unified Development Ordinance Article 7 Section 7.2 Agricultural Priority District and Table 7.1 lists uses allowed in the AG District. P stands for permitted and S stands for Special Use Permits.

Attachment: 6 NLI Kenney Clay Zoning Ordinances , 7 NLI Kenney Clay Zoning_Threat of Loss Map

Overlay zones or other restrictions

Describe any overlay zones that prohibit development or forest clearance such as critical areas, wetlands, or steep slopes and their protection buffers. Describe any legal encumbrances or other pre-existing tree/forest restrictions that may have hindered removal of the Project Trees (in the pre-Preservation Commitment condition). If present, attach a copy of the applicable restriction and a map depicting the overlay boundaries, with the Project Area boundaries clearly indicated on the map.

A wetland exists on the eastern parcel for the Project Area. It includes 10.2 acres of wetlands. Local zoning ordinances allow for trees to be removed within the wetland boundaries but no development is allowed in this area. Based on Federal and Winnebago County regulations, any proposed wetland impacts require permitting. Wetland impacts means loss of wetlands due to filling, excavation or other development activity that substantially alters the hydrology of wetlands. Mechanized land clearing within wetlands typically requires a permit from Winnebago County or the U.S. Army Corps of Engineers (USACE) due to the significant ground disturbance and re-deposition of soil associated with this activity. However, if trees are removed from wetlands without disturbing the soil (e.g., mowing, rotary cutting, and chainsawing, per 33 CFR 323.2(d)(ii)), a permit is usually not required. This still allows the fraction at risk of tree removal to remain, based on the USACE and Winnebago County wetland policies/regulations.

Attachment: 8 NLI Kenney Clay Overlay Map and Ordinance

Threat of loss demonstration (Section 4.4 A, B, or C)
Describe one of the three threat of loss conditions that are applicable prior to the Preservation Commitment. Provide supporting evidence such as maps, sale or assessed value documentation, or appraisal information.

A) Developed or improved uses surrounding at least 30% of perimeter of Project Area
- *A map depicting the Project Area with parcel boundaries, perimeter of developed or improved uses, and calculation of the border with these uses*

B) Sold, conveyed, or assessed in past three years at value greater than $8K/acre for bare land
- *A settlement statement, assessor statement, or other evidence of land transaction*

C) Fair market value higher after conversion to a non-forested use
- *A "highest and best use" study from a state certified general real estate appraiser stating that the Project Area 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 the pre-Preservation Commitment condition, the project trees were not preserved from removal from either development or agricultural production. Permanent protection under the City Forest Carbon Credit program will preserve the carbon sequestration values of the project.

Attachment 7 (NLI Kenney Clay Zoning Threat of Loss Map) demonstrates how the project area meets Protocol Section 4.4 A – "was surrounded on at least 30% of its perimeter by non-forest, developed, or improved uses, including residential, commercial, agricultural, or industrial."

Both the Kenney and Clay parcels are surrounded on all sides by a developed use. The total boundary is 9,580 feet in total and 100% of the perimeter is surrounded by a developed use.

Attachment: 7 NLI Kenney Clay Zoning_Threat of Loss Map

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. Provide a map that includes both the Project Area and the closest registered urban forest Preservation Project based on the registered urban forest preservation database KML/Shapefile provided by CFC to demonstrate that the Project does not overlap with any existing urban forest carbon projects.

Project Operator has mapped the Project Area against the registered urban forest preservation project database and determined that there is no overlap of Project Area with any registered urban forest preservation carbon project, including no overlap with the Fitzgerald Road (Project Number 036) Project Area.

Project Operator has signed the Attestation of No Double Counting of Credits and No Net Harm on October 2, 2023.

Attachment: 9 NLI Kenney Clay Attestations No Double Counting and No Net Harm, 10 NLI Kenney Clay No Double Counting Map

ADDITIONALITY (Section 6)

Additionality is demonstrated by the Project 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 this 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
    - See Demonstration of Threat of Loss section above
- The land use designation/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 also embedded 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. Leakage is prevented by a deduction for displaced development in Protocol Section 11.4.

Project Operator has signed an Attestation of Additionality on October 25, 2023.

Attachment: 11 NLI Kenney Clay 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. CFC will provide the Carbon Quantification Calculator and Forest Composition Report Template. 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.

Summary numbers from Carbon Quantification Calculator

Project Area (acres)	**47.67**
Does carbon quantification use stratification (yes or no)	**No**
Accounting Stock (tCO_2e)	**3,267**
On-site avoided biomass emissions (tCO_2e)	**2,940**
On-site avoided soil carbon emissions (tCO_2e)	**2,698**
Deduction for displaced biomass emissions (tCO_2e)	**538**
Deduction for displaced soil emissions (tCO_2e)	**817**
Credits from avoided biomass emissions (tCO_2e)	**2,402**
Credits from avoided soil emissions (tCO_2e)	**1,880**
Total credits from avoided biomass and soil emissions (tCO_2e)	**4,282**
Credits attributed to the project (tCO_2e), excluding future growth	**4,282**
Contribution to Registry Reversal Pool Account	**428**
Total credits to be issued to the Project Operator (tCO_2e) *(excluding future growth)*	**3,854**

GHG Assertion:
Project Operator asserts that the Project results in GHG emissions mitigation of 3,854 tons CO_2e issued to the project.

Approach to quantifying carbon
Describe the forest conditions and general approach used to quantify carbon (e.g., 11.1.B with full inventory, i-Tree Eco plots, other). Attach the Carbon Quantification Calculator.

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 in CFC Tree Preservation Protocol Section 11.1.B. The sample established 45 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. Davey Resource Group utilized i-Tree Eco to input the sample plot data to determine the carbon storage. The CFC Carbon Calculator was used for quantification for subsequent steps 11.2, 11.3, and 11.5.

Attachment: *12 NLI Kenney Clay Carbon Quantification Calculator, 13 NLI Kenney Clay Plot Location Map, 14 NLI Kenney Clay Plot Raw Data, 15 NLI Kenney Clay i-Tree Eco*

Accounting Stock Measurement Method
Provide an overview to describe quantification methods, including which method was used to determine the accounting stock.

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 14%.

Attachment: 16 NLI Kenney Clay Carbon Biomass

Plot Sampling Map and Raw Data
If sampling was utilized to estimate the carbon stock, include the map of plot sample locations and raw data collected.

Davey Resource Group sampled 45 plots to estimate the carbon stock. See attached map for location of plot samples and raw data associated with each plot location.

Attachment: 13 NLI Kenney Clay Plot Location Map, 14 NLI Kenney Clay Plot Raw Data

Carbon Biomass Calculations
Include calculations used to determine the biomass in the Project Area. Attach i-Tree Eco file if i-Tree was used to calculate the carbon biomass.

Carbon quantification is based on the sample plots. The metric tons of Carbon is 1,036.94. The standard error is 146.02.

Biomass tC/ac = (metric tons of carbon – standard error)/project area acres = (1036.94-146.02)/47.67 = 18.69 (cell B11 on attachment 12)

Attachment: 12 NLI Kenney Clay Carbon Quantification Calculator

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

Not applicable, the Project Area was treated as one stand, thus DRG did not use stratification.

Forest Composition
Summarize the forest composition and attach the Forest Composition Report.

The three most common species are Shagbark hickory (25.5 percent), American elm (23.3 percent), and Black cherry (20.4 percent). DRG completed a sample inventory using randomized 1/10th- acre plots, following section 11.1.B in the CFC Tree Preservation Protocol.

Attachment: 17 NLI Kenney Clay Forest Composition Report

Area Expected to Remain in Trees after Potential Development (11.2)
Describe the land use designation, any restrictions, and the method used to determine the area expected to remain in trees after potential development (fraction at risk of removal). If residential land use, follow 11.2.B. and provide the calculation showing which percentage of accounting stock at risk of removal is appropriate to include.

Kenney and Clay Woods Additions to the Lind-McGeachie Preserve is zoned as Agriculture. Section 11.2 in CFC's Tree Preservation Protocol allows for 90% of the Accounting Stock on the Project Area is the "Avoided Biomass Emissions" on agricultural lands.

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 land use designation and development rules, any restrictions, existing impervious area and maximum fraction impervious cover.

Kenney and Clay Woods Additions to the Lind-McGeachie Preserve is zoned as Agriculture and the applicable zoning and development do limit impervious area to a maximum of 60%. However, the 10.2 acres within the wetland would require a permit for development. To be conservative, the soil carbon credits were not claimed for this section of the Project Area.

Future Planned Project Activities
Describe future activities that may affect the percent canopy or carbon stocking in any way. Describe maintenance and stewardship activities that could improve the carbon stock.

Natural Land Institute has no planned projects other than ecosystem management activities for forest health within the project area. These would include removal of invasive, non-native brush and tree species. Some trail markers may be installed with no impact on the trees.

CO-BENEFITS QUANTIFICATION DOCUMENTATION (Section 11.5)

Summarize co-benefit quantification per year and provide supporting documentation. CFC will provide a Co-Benefits Quantification calculator for quantifying rainfall interception, reduction of certain air compounds, and energy savings.

Ecosystem Services	***Resource Units***	***Value***
Rainfall Interception (m3/yr)	11,604.9	$83,088.91
Air Quality (t/yr)	0.4857	$731.31
Cooling – Electricity (kWh/yr)	91,353	$6,933.67
Heating – Natural Gas (kBtu/yr)	1,708,137	$16,628.33
Grand Total ($/yr)		**$107,382.21**

Co-benefits were quantified using CFC's Co-Benefits Quantification Calculator. These ecosystem services represent values in avoided costs of $107,382.21 annually and $4,295,288.46 over 40 years.

Attachment: 18 NLI Kenney Clay CoBenefit Calculator

Canopy Cover
i-Tree Canopy report was completed to quantify the cobenefits. Include the results below.

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 90%.

Attachment: 19 NLI Kenney Clay i-Tree Canopy report

SOCIAL IMPACTS (Section 12)

Project Operators shall use the Carbon Project Social Impacts template to evaluate how their Project aligns with the UN Sustainable Development Goals (SDGs). CFC will provide the template. Summarize the three to five main SDGs attributed to this Project.

SDG 6 – Clean water and sanitation: This project is located within the floodplain of Silver Creek, which is culturally important to the community, but has suffered degradation under modern agricultural uses. The Silver Creek watershed has protected areas and a stream survey has been completed higher up the stream channel with some high-quality species identified in the stream. The upland forest will continue to improve infiltration rates and prevent soil erosion. Protection of the forested floodplain will enhance water quality and protect the stream from channel down-cutting and bank degradation, resulting in cleaner water downstream.

Improving infiltration rates is important to our community as our region taps into groundwater aquifers for our water supply. According to the Chicago Metropolitan Agency for Planning's '*Water 2050 Regional Water Supply/Demand Plan*', our regional aquifer withdrawals in both the shallow and deep bedrock aquifers exceed the re-charge rate. Protecting and improving infiltration rates is a significant ecosystem service for this region, and the forest also cleans runoff as it infiltrates into the water supply aquifers.

SDG 13 – Climate Action: This project is a tree protection project that will reduce/remove air pollutants through preserving those Regulating ecosystem services that protecting tree provides. This protection project will also optimize biodiversity as it is located within a larger complex of protected lands.

This project supports enhanced wildlife habitat including supporting pollinators and bird populations as well as enhanced soil health through soil formation, nutrient and water cycling and photosynthesis. This protection project provides climate regulating services as it is a sink for greenhouse gasses including CO2 and evapotranspiration. This project will prevent deforestation within an agricultural zoning area.

SDG 15 – Life on land: The project is moderately sloped from the upland forest to the floodplain forest along the creek, and protecting the soils from erosion is a function of a healthy forest floor that manages and removes invasive species to allow for a robust cover of ephemeral and other native groundcover holding the soils in place. Removal of invasive species that shade out a healthy native groundcover will also improve the soil infiltration rates for recharging our groundwater aquifers and reducing stormwater runoff.

Attachment: 20 NLI Kenney Clay 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

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, 2023, the first report will be due by January 1, 2026 and every three years thereafter for the duration of the project. CFC will provide a list of dates to Project Operator after the first verification report is approved. Project Operators must submit reports in writing and must attest to the accuracy of the reports. The reports must contain any changes in eligibility status of the Project Operator and any significant tree loss. The information includes updates to land ownership, changes to project design, changes in implementation or management and changes in tree or canopy loss. 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.

Monitoring Plans

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

The Project Area, is encumbered with a deed restriction on each parcel, held by Natural Land Institute (NLI), a 501(c)3 non-profit organization. The protections afforded by the deed restrictions will preserve the current forest and tree canopy and safeguard the Project Area from future threats of timber harvesting. There are no specific future activities planned within the boundaries of the Project Area, except for management activities for forest health, which are allowed under Paragraph 1 in the terms of the deed restriction and will be incorporated into future management plans. Additionally, NLI will reserve the right to quantify the future growth of the Project Trees. NLI is an accredited land trust and has a professional team dedicated to the stewardship of its conservation easements and land owned in fee. NLI has demonstrated its ability to serve in this capacity, having conserved more than 17,000 acres across Illinois and holding 49 conservation easements on over 4000 acres, each of which are monitored annually. Staff members will visit the Kenney and Clay Woods Preservation Project annually, walking the Project Area and properties in their entirety to ensure that the tenets of the deed restrictions are being upheld and to resolve any issues with encroachment or non-permitted activities on-site. NLI will submit written monitoring reports every three years attesting to the accuracy of the reports. The reports will include imagery of leaf-on trees. NLI will monitor for tree canopy loss and follow Protocol requirements as necessary.

PROJECT OPERATOR SIGNATURE

Signed on December 7 in 2023, by Alan Branhagen, Executive Director, for Natural Land Institute.

Signature

Alan Branhagen

_____

Printed Name

815-964-6666

_____

Phone

abranhagen@naturalland.org

_____

Email

ATTACHMENTS

Update the attachments list as appropriate for your project.

1 – Shapefiles
2 - Regional Map
3- Project Area Map
4 – Deed
5 – Preservation Commitment
6 - Land Use Regulations
7 –Zoning Map and Threat of Loss Map
8 – Overlay Zones Map and Ordinances
9 – Attestation of No Double Counting and No Net Harm
10 – No Double Counting Map
11 – Attestation of Additionality
12 – Carbon Quantification Calculator
13 - Plot Sampling Map
14 - Sampling Raw Data
15 - i-Tree Eco file
16 - Carbon Biomass calculations
17 - Forest Composition
18 – Co-Benefit Quantification Calculator
19 – iTree Canopy Report
20 – Social Impacts

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. Quantification of soil carbon (Section 11.3)

Calculate "Avoided Soil Carbon Emissions" caused by conversion of soils to impervious surfaces in the Project Area

4. Deduction for displaced development (Section 11.4)

Apply the deductions in Section 11.5 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

5. Quantify Co-Benefits (Section 11.5)

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.

6. Claiming additional credit for growth (Section 11.6)

The Project Operator may elect to also account for ongoing growth of trees within the Project Area after Project Commencement

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)

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.

Attachments

Deeds

Project Area Map

Regional Area Map

Preservation Commitment

Zoning & Threat of Loss Maps

Zoning Description(s)

Attestation of No Double Counting and No Net Harm

Attestation of Additionality

Carbon Quantification Tool

Tree Inventory & Plot Location Map

Tree Characteristics Chart(s)

iTree Canopy Report

Carbon Biomass Report

Cobenefit Calculator

Social Impacts

Deed

Deeds

Deed for Parcel 15-20-126-016

Deed for Parcel 15-19-253-003

TRUSTEE'S DEED

THIS INDENTURE, made this 25th day of May, 2023:

The Grantor,

JOHN C. KENNEY, as Trustee under the provisions of a Trust Agreement dated the 7th day of April, 2009, known as the John C. Kenney Revocable Trust,

whose address is: P.O. Box 6, Byron, Illinois 61010

for and in consideration of Ten Dollars ($10.00) and other good and valuable consideration in hand paid, hereby CONVEY AND WARRANT to

NATURAL LAND INSTITUTE
an Illinois Not-for-Profit Corporation

WHOSE ADDRESS IS: 320 South Third Street, Rockford, Illinois 61104

THE PROPERTY COMMONLY KNOWN AS: 77XX South Main Road, Rockford, Illinois 61102

P.I.N. Number: 15-20-126-016 AND LEGALLY DESCRIBED AS:

See Attached Exhibit A

SUBJECT TO: Any and all easements, covenants and restrictions of record and real estate taxes for 2022 and subsequent years.

This deed is executed pursuant to and in the exercise of the power and authority granted to and vested in said Grantors as Trustees by the terms of the aforementioned Trust Agreements.

Affix Transfer Tax Stamp
or
"Exempt pursuant to section 31-45 B of the Real Estate Transfer Tax Law."
5/25/23 S
Date Buyer, Seller or Representative

JOHN C. KENNEY, as Trustee under the provisions of a Trust Agreement dated the 7th day of April, 2009, known as the John C. Kenney Revocable Trust

STATE OF ILLINOIS)
) ss
COUNTY OF WINNEBAGO)

I, the undersigned, a Notary Public in and for the county and state aforesaid, do hereby certify that John C. Kenney appeared before me this day in person and, pursuant to the terms and conditions of the John C. Kenney Revocable Trust dated April 7, 2009, has the authority to execute this Deed, and he has so executed this Deed as his free and voluntary act as the Trustee and as the free and voluntary act of said Trust.

Given under my hand and Notarial Seal this 25 day of May, 2023.

OFFICIAL SEAL
STEPHANIE CANNON
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES: 04/27/2026

Notary Public

FUTURE TAXES TO:

Name: Natural Land Institute
Address: 320 S. Third Street
City/State/Zip: Rockford, IL 61104

RETURN TO:

Name: Natural Land Institute
Address: 320 S. Third Street
City/State/Zip: Rockford, IL 61104

This instrument was prepared by:
Attorney Michael G. Schultz
Reno & Zahm LLP
2902 McFarland Rd., Suite 400
Rockford, IL 61107
(815) 987-4050
mgs@renozahm.com

EXHIBIT A

Part of the West Half (1/2) of Section 20, Township 43 North, Range 1 East of the Third (3rd) Principal Meridian, bounded and described as follows, to-wit Beginning at a point in the North line of the Northwest Quarter (1/4) of said Section which bears South 88 degrees 36' 05" West 1240.00 feet from the Northeast corner of the Northwest Quarter (1/4) of said Section, said point of beginning being the Northwest corner of premises conveyed by Ronald S. Kenney to Marilyn Rene Kenney Hollis as Trustee of the Charles V. Kenney Trust #1104941 by Quit Claim Deed dated September 2, 2008 and recorded as Document No. 200800841997 in the Recorder's Office of Winnebago County, Illinois; thence South 01 degrees 19' 43" East along the West line of said premises so conveyed by Kenney as aforesaid, 960.00 feet to the Southwest corner of said premises so conveyed by Kenney as aforesaid; thence South 01 degrees 50' 11" West 937.62 feet to the Northeast corner of premises conveyed by Joyce E. Bietau to Florise M. Moore by Quit Claim Deed dated January 19, 1954 and recorded in Book 872 of Deeds on Page 453 in said Recorder's Office; thence South 81 degrees 52' 07" West along the North line of said premises so conveyed to Moore as aforesaid, 264.76 feet to the Northwest corner of said premises so conveyed to Moore as aforesaid and to the Northeast corner of premises conveyed by The Illinois National Bank & Trust Co. of Rockford as Trustee of Trust No. 2466 to George D. Rager and Irene E. Rager by Trustee's Deed dated August 5, 1960 and recorded in Book 1220 of Deeds on Page 637 in said Recorder's Office; thence continuing South 81 degrees 52' 07'' West 585.21 feet; thence South 01 degrees 03' 50'' East, 232.15 feet; thence South 60 degrees 29' 43" West 227.45 feet thence South 01 degrees 03' 50'' East 242.00 feet thence South 63 degrees 31' 38" West 232.61 feet to the Northwest corner of said premises so conveyed to Rager as aforesaid and to the Northeast corner of Parcel II of premises conveyed by Eloise Cecka and Tina R. Isaacs as Trustees of The Cecka Family Trust No. C-491 to Merle Oleson and Iva Oleson by Trustee's Deed dated March 27, 2002 and recorded as Document No. 0228003 in said Recorder's Office (the last five previously described courses being along the Northerly lines of said premises so conveyed to Rager as aforesaid); thence continuing South 63 degrees 31' 38" West along the North line of said premises so conveyed to Oleson as aforesaid, 33.23 feet to the Northwest corner of said premises so conveyed to Oleson as aforesaid; thence South 01 degrees 03' 50'' East, along the West line of said premises so conveyed to Oleson as aforesaid, 405.00 feet to the centerline of Illinois State Route No. 2 as now laid out and located which runs Northeasterly and Southwesterly through the West Half (1/2) of said Section; thence South 63 degrees 31' 38" West along said centerline 77.50 feet to the West line of the Southwest Quarter (1/4) of said Section; thence North 01 degrees 03' 50" West along the West line of the Southwest Quarter (1/4) of said Section, 484.95 feet to the Southwest corner of the Northwest Quarter (1/4) of said Section; thence North 17 degrees 47' 03" East 717.69 feet; thence North 01 degrees 03' 50" West parallel with the West line of the Northwest Quarter (1/4) of said Section, 1139. 78 feet to the South line of premises conveyed by Harold V. Nalley and Helen E. Nalley to Julia M. Lind and Jennie F. Lind by Warranty Deed dated May 5, 1939 and recorded in Book 421 of Deeds on Page 320 in said Recorder's Office; thence North 88 degrees 36' 05" East along the South line of said premises so conveyed to Lind as aforesaid and along the South line of premises conveyed by LeRoy Mohlman and Mary C. Mohlman to Carl E. Dickow and Ruth Ann Dickow by Warranty Deed dated July 31, 1969 and recorded as Micro file 6915-1345 in said Recorder's Office and along the South line of premises conveyed by Carl E. Dickow and Ruth Ann Dickow to Robert D. Huffington and Mary Lou Huffington by Warranty Deed dated July 1, 1971 and recorded as Micro file 7113-0183 in said Recorder's Office, 1092.96 feet to the Southeast corner of said premises so conveyed to Huffington as aforesaid; thence North 01 degrees 23' 55" West along the East line of said premises so conveyed to Huffington as aforesaid, 825.00 feet to the North line of the Northwest Quarter (1/4) of said Section; thence North 88 degrees 36' 05" East along the North line of the Northwest Quarter (1/4) of said Section, 76.35 feet to the point of beginning. Subject to the rights of the public and the State of Illinois in and to those portions thereof taken, used or dedicated for public road purposes; situated in the County of Winnebago and State of Illinois.

DocId:20081282
Tx:40125936

12/28/23
Clay/
Lind McCandlish

2023028433
Filed for Record in
WINNEBAGO COUNTY IL
LORI GUMMOW, CLERK & RECORDER
12/04/2023 01:55:42 PM
DEED Pages: 3

RECORDING FEE	36.00
RHSP FEE	18.00

TRUSTEE'S DEED

THIS INDENTURE, made this 30TH day of November, 2023 Gilbert N. Clay, as Trustee under the provisions of a Trust Agreement dated December 27, 2005, known as The Gilbert N. Clay Trust, as to an undivided ½ interest and Loretta M. Clay, as Trustee under the provisions of a Trust Agreement dated December 27, 2005, known as The Loretta M. Clay Trust, as to an undivided ½ interest, Grantors, and Natural Land Institute, an Illinois not-for-profit corporation, Grantee, whose address is 320 South Third St., Rockford, IL 61104.

WITNESSETH, That Grantors in consideration of the sum of Ten Dollars, and other good and valuable consideration in hand paid, does hereby grant, sell and convey unto said Grantee, the following described real estate, situated in the County of Winnebago and State of Illinois, to-wit:

Part of the East Half (1/2) of fractional Section 19, Township 43 North, Range 1 East of the Third (3rd) Principal Meridian, bounded and described as follows, to-wit: Beginning at the Northwest corner of the Plat of White Deer Section of Deer Wood, being a Subdivision of a part of the East Half (1/2) of fractional Section 19, Township 43 North, Range 1 East of the Third (3rd) Principal Meridian lying North of Rock River, the Plat of which Subdivision is recorded in Book 27 of Plats on Page 144 as Document No. 989749 in the Recorder's Office of Winnebago County, Illinois; thence North 00 degrees 00' 51" East, parallel with the West line of the East Half (1/2) of said fractional Section, 933.82 feet to the South line of the North 100 acres of the East Half (1/2) of said fractional Section; thence South 89 degrees 57 39" East, along the South line of the North 100 acres of the East Half (1/2) of said fractional Section 944.21 feet to the Northwest corner of premises conveyed by Russell J. Harrington and Ruth Harrington to Murray F. DuMont by Warranty Deed dated February 6, 1947 recorded in Book 562 of Recorder's Records on Page 143 in said Recorder's Office and to the Northwest corner of Tract 6 as designated upon a Plat of Survey prepared by Survey-Tech, Inc. dated April 18, 1990 the Plat of which is recorded as Micro File Number 9025-0969 in said Recorder's Office; thence South 00 degrees 07 28" West, along the West line of said premises so conveyed to DuMont as aforesaid and along the West line of said Tract 6 a distance of 940.77 feet to the North line of said Tract 6; thence North 89 degrees 57 39" West, along the North line of said Tract 6 a distance of 222.38 feet to the Northeasterly line of Antler Trail as designated upon the Plat of White Deer Section of Deer Wood as aforesaid; thence Northwesterly, along the Northeasterly line of Antler Trail as aforesaid and along a circular curve to the left having a radius of

TLA WW3169190M

733.00 feet the center of which lies to the West, to the Northerly terminus of said Antler Trail, (the chord across the last described circular curve course bears North 47 degrees 55' 21" West, 216.61 feet); thence South 33 degrees 34' 50" West, 66.00 feet; thence Northwesterly along a circular curve to the right having a radius of 983.00 feet the center of which line to the East to the most Northerly corner of Lot Thirty (30) as designated upon the Plat of White Deer Section of Deer Wood as aforesaid (the chord across the last described circular curve course bears North 55 degrees 58' 56" West, 15.00 feet); thence South 34 degrees 22' 18" West, 149.91 feet; thence North 46 degrees 33' 20" West, 46.96 feet; thence North 89 degrees 57 09" West, 391.58 feet to the point of beginning (the last five previously described courses being along the Northerly lines of White Deer Section of Deer Wood as aforesaid);

Property Code: Part of 15-19-253-001 New PIN: 15-19-253-003
Prop. Code: Part of 235A 085A

Property Address: 65XX Antler Trail, Rockford, IL 61102

Subject to real estate taxes for 2023 and subsequent years, easements, restrictions and covenants of record, if any.

TO HAVE AND TO HOLD the same unto said Grantee, and his, her, or their heirs and assigns forever.

This deed is executed pursuant to and in the exercise of the power and authority granted to and vested in said trustee by the terms of said deed or deeds in trust delivered to said trustee in pursuance of the trust agreement above mentioned. This deed is made subject to the lien of every trust deed or mortgage and every other lien against said premises (if any there be) of record in said county given to secure the payment of money, and remaining unreleased at the date of the delivery hereof and all unpaid taxes and special assessments now, or hereafter to be made, a charge or lien against said premises.

IN WITNESS WHEREOF, said Grantors, as trustees, have hereunto set their hand and seal the day and year first above written.

Gilbert N. Clay. Trustee

Loretta M. Clay, Trustee

STATE OF ILLINOIS)
) SS:
COUNTY OF WINNEBAGO)

I, the undersigned, a Notary Public in and for and residing in said County, in the State aforesaid, DO HEREBY CERTIFY that Gilbert N. Clay and Loretta M. Clay _____,

personally known to me to be the same persons whose names are subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that they signed, sealed, and delivered the said instrument as their free and voluntary act for the uses and purposes therein set forth. Given under my hand and Notarial seal this 28th day of November, 2023.

JOSHUA HAAS
Notary Public - Notary Seal
Lincoln County - State of Missouri
Commission Number 21536512
My Commission Expires Dec 7, 2025

Notary Public

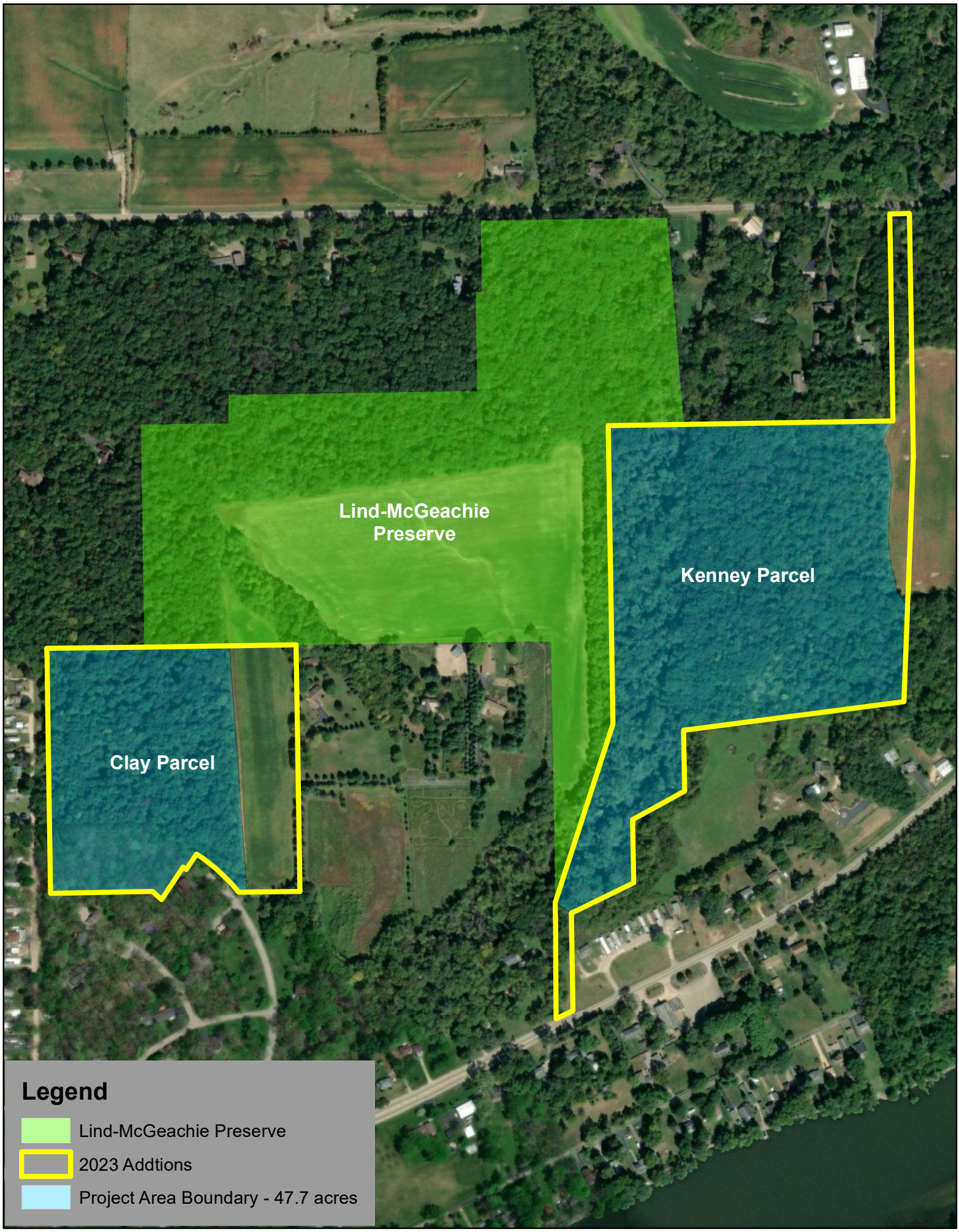
FUTURE TAXES AND RETURN TO: Natural Land Institute 320 South Third St., Rockford, IL 61104

This Instrument was prepared by: LOUIS C. BOWMAN, Attorney at Law
Whose Address is: 405 West State Street, Rockford, IL 61101, (815) 494-2080

I hereby declare that this deed represents a transaction exempt under provisions of Paragraph E Section 4 of the Real Estate Transfer Tax Act.

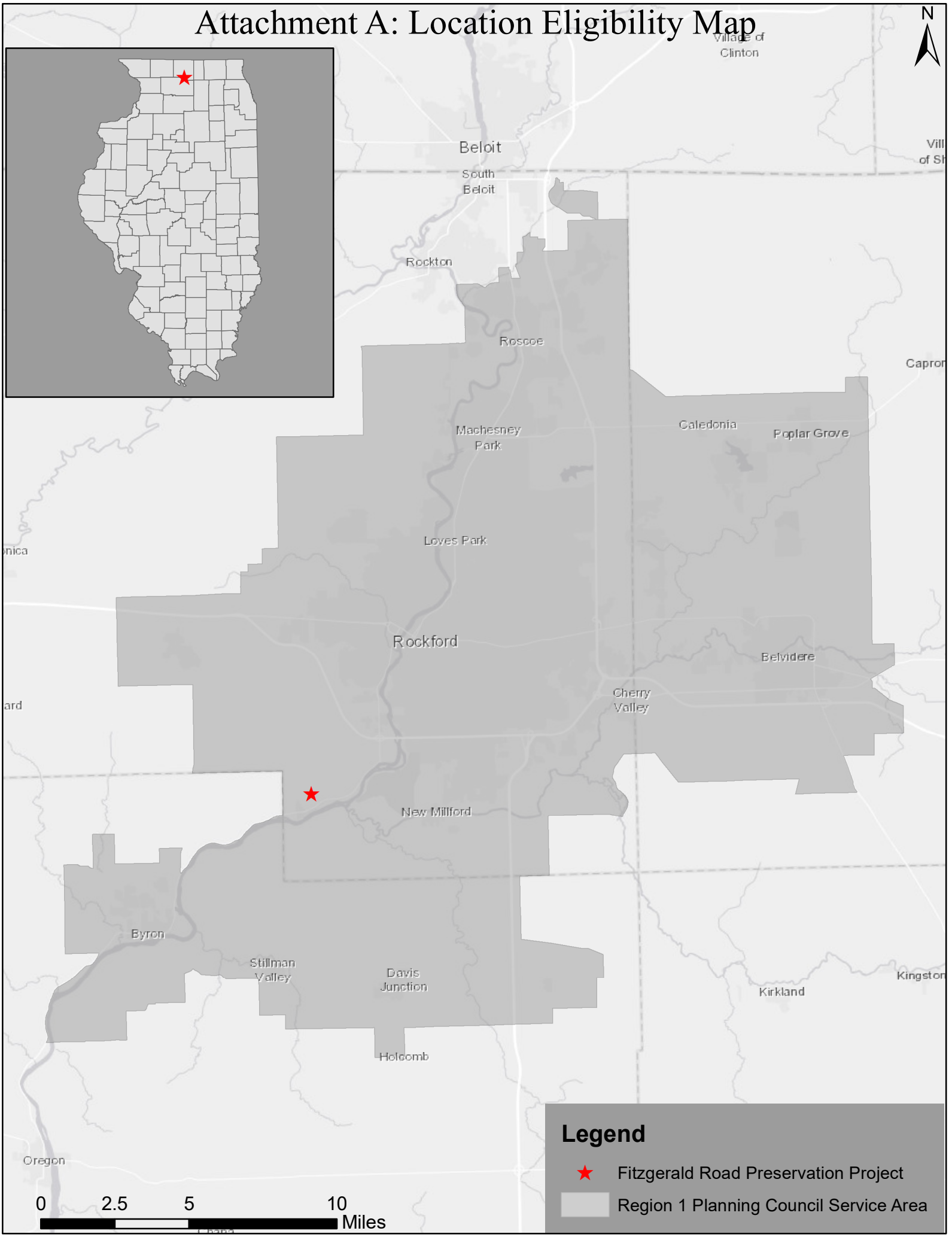
11/30/23 S. Lann
DATE BUYER, SELLER OR REPRESENTATIVE

Project Area Map


Lind-McGeachie
Preserve
Kenney Parcel
Clay Parcel
Legend
Lind-McGeachie Preserve
2023 Addtions
Project Area Boundary - 47.7 acres
0
375
750
1,500
Feet

Regional Area Map

Attachment A: Location Eligibility Map



Preservation Commitment

Deed Restrictions

Deed Restriction for Parcel 15-20-126-016

Deed Restriction for Parcel 15-19-253-003

DocId:20091871
Tx:40126254

2023028874
Filed for Record in
WINNEBAGO COUNTY IL
LORI GUMMOW, CLERK & RECORDER
12/07/2023 02:27:59 PM
DECLARATION Pages: 6
RECORDING FEE 36.00
RHSP FEE 18.00

RETURN TO:
NATURAL LAND INSTITUTE
320 SOUTH THIRD ST.
ROCKFORD, IL 61104

DECLARATION OF DEVELOPMENT RESTRICTIONS

Grantor: Natural Land Institute, 320 South Third Street, Rockford, IL 61104

Grantee: Natural Land Institute, 320 South Third Street, Rockford, IL 61104

Legal Description: See Attached Exhibit A

Assessor's Tax Parcel Identification No(s): 15-20-126-016

THIS DECLARATION OF DEVELOPMENT RESTRICTIONS (the "DECLARATION") is made this 6 day of DECEMBER 2023, by Natural Land Institute, an Illinois not for profit corporation ("Declarant")], for the purpose of clarifying the development restrictions on property at 77xx South Main Road in Rockford, Illinois 61102.

RECITALS

A. Declarant is the owner of certain property in Rockford, Illinois, addressed as the Kenney Addition to Lind-McGeachie Preserve more particularly described in EXHIBIT A attached hereto and incorporated by reference (the "Property").

B. Declarant purchased the Property from John Kenney, Trustee on May 25, 2023.

C. Declarant is a not for profit corporation established in 1958.

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 is an active participant within City Forest Credits' efforts to develop a forest carbon program, whereby the Declarant will preserve forested stands and earn carbon credits for those preserved trees. City Forest Credits, a non-profit carbon registry, has developed carbon protocols and issues credits for qualifying tree-preservation and tree-planting projects in and around urban areas.

F. 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.

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 Winnebago 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.

6. Enforcement.

a. This Declaration is being freely and voluntarily made by Declarant.

b. City Forest Credits, the permitting authority in the locality where the Property is located, and members of the general public are express third party beneficiaries of this Declaration (individually, a "Beneficiary", and collectively, the "Beneficiaries"), and shall have the power and right but not the obligation to enforce the terms and conditions of this Declaration by any applicable legal or equitable remedies, including, without limitation, injunctive relief and specific performance. All remedies available under this Declaration shall be in addition to any and all remedies at law or in equity. Enforcement of the terms of this Declaration shall be at the discretion of the Beneficiaries, and any forbearance, delay or omission to exercise its rights under this Declaration in the event of a breach of any term of this Declaration is not a waiver by any Beneficiary of such term or of any subsequent breach of such term, or any other term in this Declarant, or of any rights of any Beneficiary under this Declaration.

c. In addition, City Forest Credits shall have the right to assign the rights described in this Section 6 to any other person or entity with an interest in preserving the trees on the Property and such party shall be deemed a Beneficiary for the purposes set forth above.

d. Declarant shall be responsible for all costs associated with implementation of this Declaration. Further, Declarant shall be obligated to pay for the Beneficiaries' or such other enforcing party's costs to process a request for any modification or termination of this Declaration and any approval required by this Declaration.

[Signature page follows.]

Dated this 6 date of DECEMBER, 2023

Natural Land Institute

By: _____

Name: Alan Branhagen
Title: Executive Director

Attest: _____

Name: Kim Johnsen
Title: Director of Marketing and Membership

STATE OF ILLINOIS

ss.

COUNTY OF WINNEBAGO

I certify that I know or have satisfactory evidence that Alan Branhagen and Kim Johnsen 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 Executive Director and Assistant Director of the Natural Land Institute, respectively, to be the free and voluntary act of such for the uses and purposes mentioned in the instrument.

Dated this 6th day of DEC, 2023.

Printed Name: JILL KENNAY

NOTARY PUBLIC in and for the State of Illinois,

Residing at 4208 Cushman Rd, Rockford, IL

My Commission Expires Mar. 22, 2025

JILL KENNAY
OFFICIAL SEAL
Notary Public - State of Illinois
My Commission Expires Mar 22, 2025

EXHIBIT A

LEGAL DESCRIPTION

Part of the West Half (1/2) of Section 20, Township 43 North, Range 1 East of the Third (3rd) Principal Meridian, bounded and described as follows, to-wit: Beginning at a point in the North line of the Northwest Quarter (1/4) of said Section which bears South 88 degrees 36' 05" West, 1240.00 feet from the Northeast corner of the Northwest Quarter (1/4) of said Section, said point of beginning being the Northwest corner of premises conveyed by Ronald S. Kenney to Marilyn Rene Kenney Hollis as Trustee of the Charles V. Kenney Trust #1104941 by Quit Claim Deed dated September 2, 2008 and recorded as Document No. 200800841997 in the Recorder's Office of Winnebago County, Illinois; thence South 01 degrees 19' 43" East, along the West line of said premises so conveyed by Kenney as aforesaid, 960.00 feet to the Southwest corner of said premises so conveyed by Kenney as aforesaid; thence South 01 degrees 50' 11" West, 937.62 feet to the Northeast corner of premises conveyed by Joyce E. Bietau to Florise M. Moore by Quit Claim Deed dated January 19, 1954 and recorded in Book 872 of Deeds on Page 453 in said Recorder's Office; thence South 81 degrees 52' 07" West, along the North line of said premises so conveyed to Moore as aforesaid, 264.76 feet to the Northwest corner of said premises so conveyed to Moore as aforesaid and to the Northeast corner of premises conveyed by The Illinois National Bank & Trust Co. of Rockford as Trustee of Trust No. 2466 to George D. Rager and Irene E. Rager by Trustee's Deed dated August 5, 1960 and recorded in Book 1220 of Deeds on Page 637 in said Recorder's Office; thence continuing South 81 degrees 52' 07" West, 585.21 feet; thence South 01 degrees 03' 50" East, 232.15 feet; thence South 60 degrees29' 43" West, 227.45 feet; thence South 01 degrees 03' 50" East, 242.00 feet; thence South 63 degrees 31' 38" West, 232.61 feet to the Northwest corner of said premises so conveyed to Rager as aforesaid and to the Northeast corner of Parcel II of premises conveyed by Eloise Cecka and Tina R. Isaacs as Trustees of The Cecka Family Trust No. C-491 to Merle Oleson and Iva Oleson by Trustee's Deed dated March 27, 2002 and recorded as Document No. 0228003 in said Recorder's Office (the last five previously described courses being along the Northerly lines of said premises so conveyed to Rager as aforesaid); thence continuing South 63 degrees 31' 38" West, along the North line of said premises so conveyed to Oleson as aforesaid, 33.23 feet to the Northwest corner of said premises so conveyed to Oleson as aforesaid; thence South 01 degrees 03' 50" East, along the West line of said premises so conveyed to Oleson as aforesaid, 405.00 feet to the centerline of Illinois State Route No. 2 as now laid out and located which runs Northeasterly and Southwesterly through the West Half (1/2) of said Section; thence South 63 degrees 31' 38" West, along said centerline 77.50 feet to the West line of the Southwest Quarter (1/4) of said Section; thence North 01 degrees 03' 50" West, along the West line of the Southwest Quarter (1/4) of said Section, 484.95 feet to the Southwest corner of the Northwest Quarter (1/4) of said Section; thence North 17 degrees 47' 03" East, 717.69 feet; thence North 01 degrees 03' 50" West, parallel with the West line of the Northwest Quarter (1/4) of said Section, 1139.78 feet to the South line of premises conveyed by Harold V. Nalley and Helen E. Nalley to Julia M. Lind and Jennie F. Lind by Warranty Deed dated May 5, 1939 and recorded in Book 421 of Deeds on Page 320 in said Recorder's Office; thence North 88 degrees 36' 05" East, along the South line of said premises so conveyed to Lind as aforesaid and along the South line of premises conveyed by LeRoy Mohlman and Mary C. Mohlman to Carl E. Dickow and Ruth Ann Dickow by Warranty Deed dated July 31, 1969 and recorded as Micro file 6915-1345 in said Recorder's Office and along the South line of premises conveyed by Carl E. Dickow and Ruth Ann Dickow to Robert D. Huffington and Mary Lou Huffington by Warranty Deed dated July 1, 1971 and recorded as Micro file 7113-0183 in said Recorder's Office, 1092.96 feet to the Southeast corner of said premises so conveyed to Huffington as aforesaid; thence North 01 degrees 23' 55" West, along the East line of said premises so conveyed to Huffington as aforesaid, 825.00 feet to the North line of the Northwest Quarter (1/4) of said Section; thence North 88 degrees 36' 05" East, along the North line of the Northwest Quarter (1/4) of said Section, 76.35 feet to the point of beginning. Subject to the rights of the public and the State of Illinois in and to those portions thereof taken, used or dedicated for public road purposes; situated in the County of Winnebago and State of Illinois.

DocId:20081872
Tx:40126254

2023028875
Filed for Record in
WINNEBAGO COUNTY IL
LORI GUNNOM, CLERK & RECORDER
12/07/2023 02:28:00 PM
DECLARATION Pages: 5
RECORDING FEE 36.00
RHSP FEE 10.00

RETURN TO:
NATURAL LAND INSTITUTE
320 S. THIRD ST,
ROCKFORD, IL 61104

DECLARATION OF DEVELOPMENT RESTRICTIONS

Grantor: Natural Land Institute, 320 South Third Street, Rockford, IL 61104

Grantee: Natural Land Institute, 320 South Third Street, Rockford, IL 61104

Legal Description: See Attached Exhibit A

Assessor's Tax Parcel Identification No(s): 15-19-253-001

THIS DECLARATION OF DEVELOPMENT RESTRICTIONS (the "DECLARATION") is made this 6 day of DECEMBER, 2023, by Natural Land Institute, an Illinois not for profit corporation("Declarant"), for the purpose of clarifying the development restrictions on property at 65xx Antler Trail in Rockford, Illinois.

RECITALS

A. Declarant is the owner of certain property in Rockford, Illinois, addressed as the Clay Woods Addition to Lind-McGeachie Preserve more particularly described in EXHIBIT A attached hereto and incorporated by reference (the "Property").

B. Declarant purchased the Property from Gilbert & Loretta Clay, Trustees on November 30, 2023.

C. Declarant is a not for profit corporation established in 1958.

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 is an active participant within City Forest Credits' efforts to develop a forest carbon program, whereby the Declarant will preserve forested stands and earn carbon credits for those preserved trees. City Forest Credits, a non-profit carbon registry, has developed carbon protocols and issues credits for qualifying tree-preservation and tree-planting projects in and around urban areas.

F. 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.

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 Winnebago 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.

6. Enforcement.

a. This Declaration is being freely and voluntarily made by Declarant.

b. City Forest Credits, the permitting authority in the locality where the Property is located, and members of the general public are express third party beneficiaries of this Declaration (individually, a "Beneficiary", and collectively, the "Beneficiaries"), and shall have the power and right but not the obligation to enforce the terms and conditions of this Declaration by any applicable legal or equitable remedies, including, without limitation, injunctive relief and specific performance. All remedies available under this Declaration shall be in addition to any and all remedies at law or in equity. Enforcement of the terms of this Declaration shall be at the discretion of the Beneficiaries, and any forbearance, delay or omission to exercise its rights under this Declaration in the event of a breach of any term of this Declaration is not a waiver by any Beneficiary of such term or of any subsequent breach of such term, or any other term in this Declarant, or of any rights of any Beneficiary under this Declaration.

c. In addition, City Forest Credits shall have the right to assign the rights described in this Section 6 to any other person or entity with an interest in preserving the trees on the Property and such party shall be deemed a Beneficiary for the purposes set forth above.

d. Declarant shall be responsible for all costs associated with implementation of this Declaration. Further, Declarant shall be obligated to pay for the Beneficiaries' or such other enforcing party's costs to process a request for any modification or termination of this Declaration and any approval required by this Declaration.

[Signature page follows.]

Dated this 6 day of DECEMBER, 2023

Natural Land Institute

By: _____

Name: Alan Branhagen
Title: Executive Director

Attest: _____

Name: Kim Johnsen
Title: Director of Marketing and Membership

STATE OF ILLINOIS }
COUNTY OF WINNEBAGO } ss.

I certify that I know or have satisfactory evidence that Alan Branhagen and Kim Johnsen 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 Executive Director and Assistant Director of the Natural Land Institute, respectively, to be the free and voluntary act of such for the uses and purposes mentioned in the instrument.

Dated this 6th day of DEC, 2023.

_____

Printed Name: JILL KENNAY

JILL KENNAY
OFFICIAL SEAL
Notary Public - State of Illinois
My Commission Expires Mar 22, 2025

NOTARY PUBLIC in and for the State of Illinois,

Residing at 4208 Cushman Rd, Rockford, IL

My Commission Expires MARCH 22, 2025

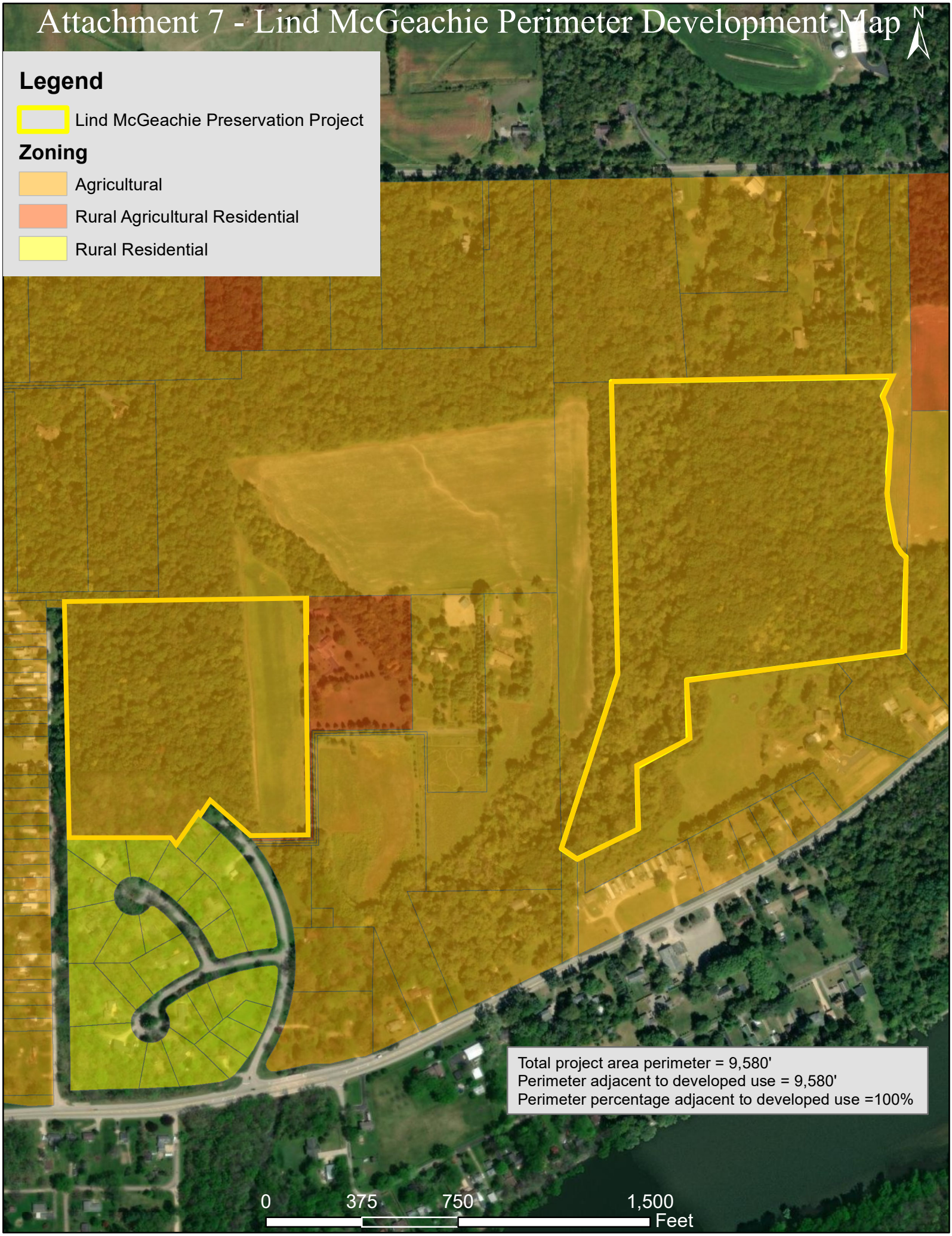
EXHIBIT A

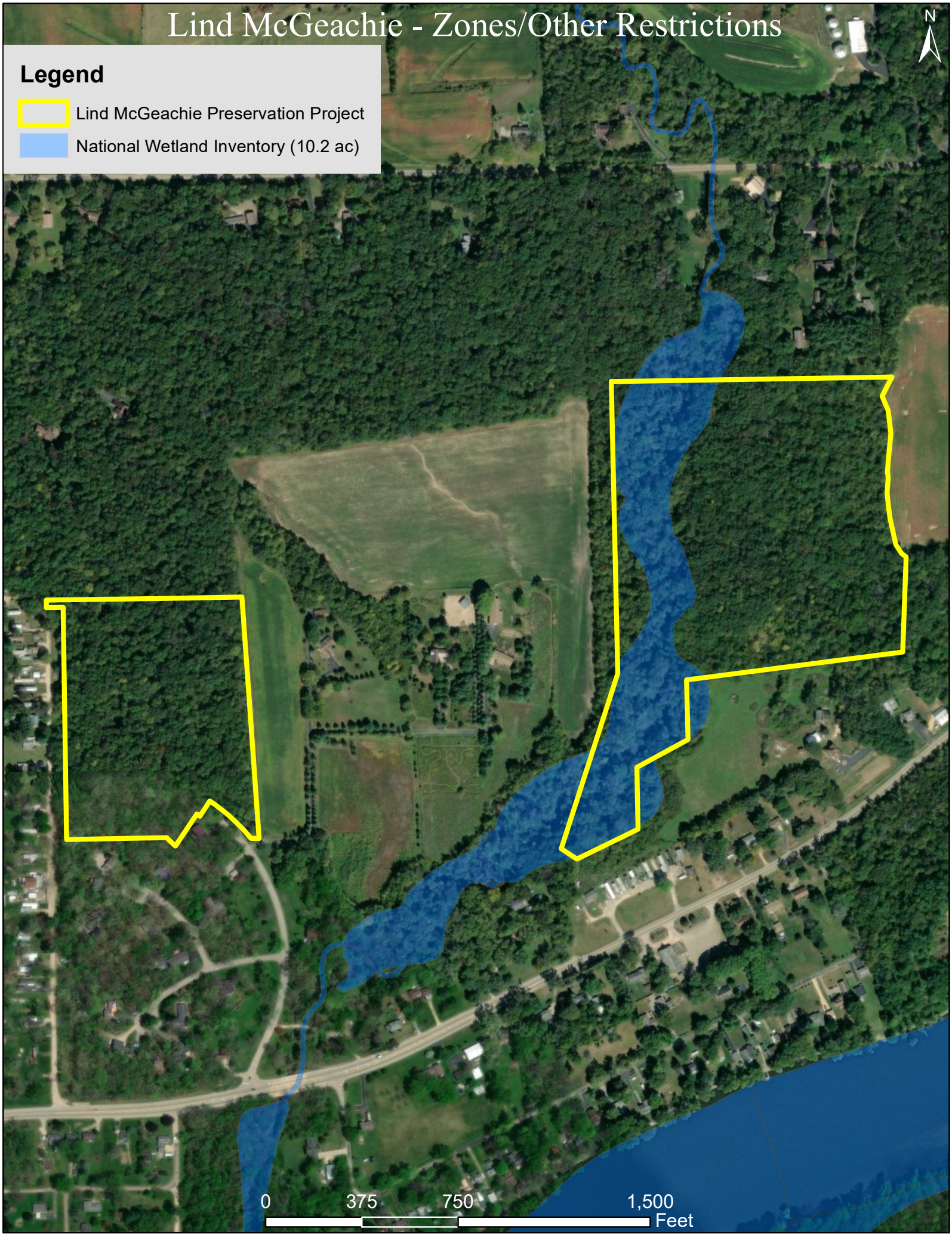
LEGAL DESCRIPTION

Part of the East Half (1/2) of Fractional Section Nineteen (19), Township Forty-three (43) North, Range One (1) East of the Third (3rd) Principal Meridian, bounded and described as follows, to-wit: Beginning at the Northwest corner of the plat of White Deer Section of Deer Wood, being a subdivision of a part of the East (1/2) of Fractional Section 19, Township 43 North, Range 1 East of the Third (3rd) Principal Meridian lying North of Rock River, the Plat of which Subdivision is recorded in Book 27 of Plats on page 144 as Document No. 989749 in the Recorder's Office of Winnebago County, Illinois; thence North 00°-00'-51" East, parallel with the West line of the East Half of said Fractional Section, 933.82 feet to the South line of the North 100 acres of the East Half of said Fractional Section; thence South 89°-57'-39" East, along the South line of the North 100 acres of the East Half of said Fractional Section, 944.21 feet to the Northwest corner of premises conveyed by Russell J. Harrington and Ruth Harrington to Murray F. DuMont by Warranty Deed dated February 6, 1947 recorded in Book 562 of Recorder's Records on Page 143 in said Recorder's Office and to the Northwest corner of Tract 6 as designated upon a Plat of Survey prepared by Survey-Tech, Inc. dated April 18, 1990 the plat of which is recorded as Micro File Number 90-25-0969 in said Recorder's Office; thence South 00°-07'-28" West, along the West line of said premises so conveyed to DuMont as aforesaid and along the West line of said Tract 6 a distance of 940.77 feet to the North line of said Tract 6; thence North 89°-57'-39" West, along the North line of said Tract 6 a distance of 222.38 feet to the Northeasterly line of Antler Trail as designated upon the Plat of White Deer Section of Deer Wood as aforesaid; thence Northwesterly, along the Northeasterly line of Antler Trail as aforesaid and along a circular curve to the left having a radius of 733.00 feet the center of which lies to the West, to the Northerly terminus of said Antler Trail, (the chord across the last described circular curve course bears North 47°-55'-21" West, 216.61 feet); thence South 33°-34'-50" West, 66.00 feet; thence Northwesterly along a circular curve to the right having a radius of 983.00 feet the center of which line to the East to the most Northerly corner of Lot 30 as designated upon the plat of White Deer Section of Deer Wood as aforesaid (the chord across the last described circular curve course bears North 55°-58'-56" West, 15.00 feet); thence South 34°-22'-18" West, 149.91 feet; thence North 46°-33'-20" West, 46.96 feet; thence North 89°-57'-09" West, 391.58 feet to the point of beginning (the last five previously described courses being along the Northerly lines of White Deer Section of Deer Wood as aforesaid). Situated in the County of Winnebago and State of Illinois.

Zoning & Threat of Loss Maps

Attachment 7 - Lind McGeachie Perimeter Development Map




Lind McGeachie - Zones/Other Restrictions
Legend
Lind McGeachie Preservation Project
National Wetland Inventory (10.2 ac)
N
0
375
750
1,500
Feet

{The following sections 100 through 900 were adopted August 24, 2006, by the Winnebago County Board as part of the Amendment to Article IV Surface Water Management, of the County Code.}

Winnebago County
Surface Water Management
Technical Regulations

100 . Introduction

The Surface Water Management Ordinance establishes the policies and objectives adopted by the Winnebago County Board for surface water management. The Ordinance also includes a common location, Section 50-248, of definitions, and other sections covering administrative procedures and legal foundation. These Surface Water Technical Regulations further define much of the specific criteria by which plans and implementations shall be judged to meet the policies and objectives. They, too, are adopted by the Winnebago County Board, except that Section 1000 and beyond is for Guidance that may be established, and revised as appropriate, by the administrator. (See Sec. 1000 for refinement.)

200 . Floodplain Regulations

201 . Introduction

These Regulations are taken directly from the **Illinois State Model Floodplain Ordinance (IDNR/OWR, operating in 2006),** sections 6 thru 10. Those who are familiar with this model ordinance will have little difficulty in navigating the section numbers for citation--though should note some qualifications for section 6. The standard definitions of Section 2 of the model ordinance are incorporated in sec. 50-248 of the Surface Water Management Ordinance. Similarly, that ordinance also contains the policy statements, administrative assignments, and legal framework that are partially unique to each jurisdiction, while maintaining the required minimum standards of 44 CFR 60.3(d).

206 . Section 6. Preventing Increased Flood Heights and Resulting Damages.

Within any floodway identified on the countywide Flood Insurance Rate Map, and within all other floodplains where a floodway has not been delineated, and are within the jurisdiction of IDNR/OWR, the following standards shall apply: Floodway determinations within floodplains with lesser tributary areas shall be based upon the same one-tenth of a foot (0.1 ft.) allowable stage increase consistent with base flood elevation determinations in the FIS, recognizing floodplain configurations that existed prior to November 19, 1980, and as lawfully established

subsequently. Using this criteria, some of the following standards, notably A.1.a, A.1.b, A.5.a.v, and A.9.c, would apply only upon the merits of individual cases.

A. Except as provided in Section 6(B) of this regulation, no development shall be allowed which, acting in combination with existing and anticipated development will cause any increase in flood heights or velocities or threat to public health and safety. The following specific development activities shall be considered as meeting this requirement:

1. Bridge and culvert crossings of streams in rural areas meeting the following conditions of the Illinois Department of Natural Resources, Office of Water Resources Statewide Permit Number 2:

a. The crossing will not result in an increase in water surface profile elevation in excess of 1.0 feet, and

b. The crossing will not result in an increase in water surface profile elevation in excess of one half (0.5) feet at a point one thousand (1,000) feet upstream of the proposed structure.

c. There are no buildings in the area impacted by the increases in water surface profile.

d. The proposed bridge or culvert crossing will not involve straightening, enlarging, or relocating the existing channel.

e. The design must be certified by a registered professional engineer in the State of Illinois and the designs must meet the conditions of an IDNR⁄OWR permit.

f. The design must be certified by a second registered professional engineer.

2. Barge fleeting facilities meeting the following conditions of IDNR⁄OWR Statewide Permit Number 3:

a. The permit is only applicable when deadmen, pier cells, or other similar anchorage devices have been permitted by the U.S. Army Corps of Engineers.

3. Aerial utility crossings meeting the following conditions of IDNR⁄OWR Statewide Permit Number 4;

a. The utility line must be constructed above the existing 100-year flood elevation or attached to an existing bridge.

b. A utility line attached to an existing bridge shall be constructed above the low cord elevation of the bridge.

c. No supporting towers or poles shall be located in a river, lake or stream.

d. Supporting towers including foundation and poles shall be designed and located so as to not cause an obstruction of flood flows by trapping debris.

e. All disturbed areas shall be returned to pre-construction grades and re-vegetated.

f. All Illinois Commerce Commission, National Electrical Safety Code, and federal requirements must be met.

4. Minor boat docks meeting the following conditions of IDNR⁄OWR Statewide Permit Number 5:

a. The boat dock must not extend more than fifty (50) feet into a waterway and no more than one quarter (1⁄4) of the width of the waterway and shall not extend beyond the navigational limited established by the IDNR and Corps of Engineers.

b. The width of the boat dock shall not be more than ten (10) feet.

c. For L-Shaped or T-shaped docks, the length of that portion parallel to the shoreline must not exceed fifty percent (50%) of the landowner's shoreline frontage nor fifty (50) feet.

d. Docks must be aligned so as not to cross the projection of property lines into the waterway or come within ten (10) feet of the projected property line.

e. Dock posts must be marked by reflective devices.

f. The boat dock must be securely anchored to prevent detachment during times of high wind or water.

g. Metal drums or containers may not be used as buoyancy units unless they are filled with floatation foam. Containers which previously stored pesticides, herbicides, or any other toxic chemicals are not permissible.

h. This permit does not authorize any other related construction activity such as shore protection or fill.

i. Non-floating boat docks must be constructed in a manner which will minimize obstruction to flow.

j. At any future date, the permittee must agree to make necessary modifications to the dock as determined

by the IDNR or Corp of Engineers

5. Minor, non-obstructive activities meeting the following conditions of IDNR/OWR Statewide Permit Number 6:

a. the following activities (not involving fill or positive change in grade) are covered by this permit:

i. The construction of underground utility lines, wells, or septic tanks not crossing a lake or stream.

ii The construction of light poles, sign posts, and similar structures.

iii. The construction of sidewalks, driveways, athletic fields (excluding fences), patios, and similar structures.

iv. The construction of properly anchored, unwalled, open structures such as playground equipment, pavilions, and carports.

v. The placement of properly anchored buildings not exceeding seventy (70) square feet in size, nor ten (10) square feet in any dimension. Only one such building on a property is authorized by this statewide permit.

vi. The raising of existing buildings, provided no changes are made to the outside dimensions of the building and the placement of fill is not involved.

6. Outfall Structures and drainage ditch outlets meeting the following conditions of IDNR/OWR Statewide Permit Number 7:

a. Any outfall structure, including any headwall or end-section, shall not extend riverward or lakeward of the existing adjacent natural bank slope or adjacent bank protection.

b. The velocity of the discharge shall not exceed the scour velocity of the channel soil, unless channel erosion would be prevented by the use of riprap or other design measures.

c. Outlets from drainage ditches shall not be opened to a stream until the ditch is vegetated or otherwise stabilized to minimize stream sedimentation.

d. Disturbance of streamside vegetation shall be kept to a minimum during construction to prevent erosion and sedimentation. All disturbed floodway areas, including the stream banks, shall be restored to their original contours and seeded or otherwise stabilized upon completion of construction.

7. Underground pipeline and utility crossings meeting the conditions of IDNR/OWR Statewide Permit Number 8:

a. In all cases, the crossing shall be placed beneath the bed of the river, lake or stream and, unless the crossing is encased in concrete or entrenched in bedrock, a minimum of three (3) feet of cover shall be provided. The river, lake or stream bed shall be returned to its original condition.

b. Disturbance of streamside vegetation shall be kept to a minimum during construction to prevent erosion and sedimentation. All disturbed floodway areas, including stream banks, shall be restored to their original contours and seeded or otherwise stabilized upon completion of construction.

c. Any utility crossing carrying material which may cause water pollution, as defined by the Environmental Protection Act (415 ILCS 5), shall be provided with shut-off valves on each side of the body of water to be crossed.

d. If blasting is to be utilized in the construction of the crossing, the permittee shall notify the IDNR/OWR at least ten (10) days prior to the blasting date to allow monitoring of any related fish kills.

8. Bank stabilization projects meeting the conditions of IDNR/OWR Statewide Permit Number 9:

a. Only the following materials may be utilized in urban areas: stone and concrete riprap, steel sheet piling, cellular blocks, fabric-formed concrete, gabion baskets, rock and wire mattresses, sand/cement filled bags, geotechnical fabric materials, natural vegetation and treated timber. Urban areas are defined as: areas of the State where residential, commercial, or industrial development currently exists or, based on land use plans or controls, is expected to occur within ten (10) years. (The Department should be consulted if there is a question of whether or not an area is considered urban).

b. In addition to the materials listed in Section 6(8)(a), other materials (e.g. tire revetments) may be utilized in rural areas provided all other conditions of this permit are met.

c. The following materials shall **not** be used in any case: auto bodies, garbage of debris, scrap lumber, metal refuse, roofing materials, asphalt or other bituminous materials, or any material which would cause water pollution as defined by the Environmental Protections Act (415 ILCS 5).

d. The affected length of shoreline, stream bank, or channel to be protected shall not exceed, either singularly or cumulatively, one thousand (1000) feet.

e. All material utilized shall be properly sized or anchored to resist anticipated forces of current and wave action.

f. Materials shall be placed in a way which would not cause erosion or the accumulation of debris on properties adjacent to or opposite the project.

g. Materials shall not be placed higher than the existing top of the bank.

h. Materials shall be placed so that the modified bank full-width and cross-sectional area of the channel will conform to or be no more restrictive than that of the natural channel upstream and downstream of the site.

For projects involving continuous placement of riprap along the bank, toe of the bank or other similar applications, in no case shall the cross-sectional area of the natural channel be reduced by more than ten percent (10%) nor the volume of material placed exceed two (2) cubic yards per lineal foot of the stream bank or shoreline. The bank may be graded to obtain a flatter slope and to lessen the quantity of material required.

i. If broken concrete is used, all protruding materials such as reinforcing rods shall be cut flush with the surface of the concrete and removed from the construction area.

j. Disturbance of vegetation shall be kept to a minimum during construction to prevent erosion and sedimentation. All disturbed areas shall be seeded or otherwise stabilized upon completion of construction.

k. In the case of seawalls and gabion structures on lakes, the structure shall be constructed at or landward of the water line as determined by the normal pool elevation, unless:

i. It is constructed in alignment with an existing seawall(s) or gabion structure(s), and

ii. the volume of material placed, including the structure, would not exceed two (2) cubic yards per lineal foot.

l. Excess material excavated during the construction of the bank or shoreline protection shall be placed in accordance with local, state, and federal laws and rules, shall not be placed in a floodway.

9. Accessory structures and additions to existing residential buildings meeting the conditions of IDNR/OWR Statewide Permit Number 10:

a. The accessory structure or building addition must comply with the requirements of the local floodplain ordinance.

b. The principle structure to which the project is being added must have been in existence on the effective date of this permit (July 25, 1988).

c. The accessory structure or addition must not exceed five hundred (500) square feet in size and must not deflect floodwaters onto another property, and

d. must not involve the placement of any fill material.

e. No construction shall be undertaken in, or within fifty (50) feet of the bank of the stream channel.

f. The accessory structure or addition must be properly anchored to prevent its movement during flood conditions.

g. Only one accessory structure or addition to an existing structure shall be authorized by this permit; plans for any subsequent addition must be submitted to IDNR/OWR for review.

h. Disturbances of vegetation shall be kept to a minimum during construction to prevent erosion and sedimentation. All disturbed floodway areas shall be seeded or otherwise stabilized upon completion of construction.

10. Minor maintenance dredging activities meeting the following conditions of IDNR/OWR Statewide Permit Number 11:

a. The affected length of the stream shall not either singularly or cumulatively exceed one thousand (1000) feet.

b. The project shall not include the construction of any new channel; all work must be confined to the existing channel or to reestablishing flows in the natural stream channel, and

c. the cross-sectional area of the dredged channel shall conform to that of the natural channel upstream and down stream of the site.

d. Dredged or spoil material shall not be disposed of in a wetland and shall be either:

i. removed from the floodway;

ii. used to stabilize an existing bank provided no materials would be placed higher than the existing top of bank and provided the cross-sectional area of the natural channel would not be reduced by more than ten percent (10%), nor the volume of material placed exceed two (2) cubic yards per lineal foot of streambank;

iii. used to fill an existing washed out or scoured floodplain area such that the average natural floodplain elevation is not increased;

iv. used to stabilize and existing levee provided the height of the levee would not be increased nor its alignment changed;

v. placed in a disposal site previously approved by the Department in accordance with the conditions of the approval, or

vi. used for beach nourishment, provided the material meets all applicable water quality standards.

e. Disturbance of streamside vegetation shall be kept to a minimum during construction to prevent erosion and sedimentation. All disturbed floodway areas, including the stream banks, shall be seeded or otherwise stabilized upon completion of construction.

11. Bridge and culvert replacement structures and bridge widening meeting the following conditions of IDNR/OWR statewide Permit Number 12:

a. A registered professional engineer shall determine and document that the existing structure has not been the cause of demonstrable flood damage. Such documentation shall include, at a minimum, confirmation that:

i. No buildings or structures have been impacted by the backwater induced by the existing structure, and

ii. there is no record of complaints of flood damages associated with the existing structure.

b. A registered professional engineer shall determine that the new structure will provide the same or greater effective waterway opening as the existing structure. For bridge widening projects the existing piers and the proposed pier extensions must be in line with the direction of the approaching flow upstream of the bridge.

c. The project shall not include any appreciable raising of the approach roads. (This condition does not apply if all points on the approaches exist at an elevation equal to or higher than the 100-year frequency flood headwater elevation as determined by a FEMA flood insurance study completed or approved by IDNR/OWR).

d. The project shall not involve the straightening, enlargement or relocation of the existing channel of the river or stream except as permitted by the Department's Statewide Permit Number 9 (Minor Shoreline, channel and Streambank Protection Activities) or Statewide Permit Number 11 (Minor Maintenance Dredging Activities).

e. The permittee shall maintain records of projects authorized by this permit necessary to document compliance with the above conditions.

12. Temporary construction activities meeting the following conditions of IDNR/OWR statewide Permit Number 13:

a. No temporary construction activity shall be commenced until the individual permittee determines that the permanent structure (if any) for which the work is being performed has received all required federal, state and local authorizations.

b. The term “temporary” shall mean not more than one construction season. All temporary construction materials must be removed from the stream and floodway within one year of their placement and the area returned to the conditions existing prior to the beginning of construction. Any desired subsequent or repetitive material placement shall not occur without the review and approval of the IDNR/OWR.

c. The temporary project shall be constructed such that it will not cause erosion or damage due to increases in water surface profiles to adjacent properties. For locations where there are structures in the upstream floodplain, the temporary project shall be constructed such that all water surface profile increases, due to the temporary project, are contained within the channel banks.

d. This permit does not authorize the placement or construction of any solid embankment or wall such as a

dam, roadway, levee, or dike across any channel or floodway.

e. No temporary structure shall be placed within any river or stream channel until a registered professional engineer determines and documents that the temporary structure will meet the requirements of Special Condition Number 3 of this statewide permit. Such documentation shall include, at a minimum, confirmation that no buildings or structures will be impacted by the backwater induced by the temporary structure.

f. The permittee shall maintain records of projects authorized by this permit necessary to document compliance with the above condition.

g. Disturbance of vegetation shall be kept to a minimum during construction to prevent erosion and sedimentation. All disturbed areas shall be seeded or otherwise stabilized upon completion of the removal of the temporary construction.

h. Materials used for the project shall not cause water pollution as defined by the Environmental Protection Act (415 ILCS 5).

13. Any Development determined by IDNR/OWR to be located entirely within a flood fringe area shall be exempt from State Floodway permit requirements.

B.Other development activities not listed in 6(A) may be permitted only if:

1. permit has been issued for the work by IDNR/OWR (or written documentation is provided that an IDNR/OWR permit is not required), or

2. sufficient data has been provided to FEMA when necessary, and approval obtained from FEMA for a revision of the regulatory map and base flood elevation.207

207 . Section 7. Protecting Buildings.

A. In addition to the damage prevention requirements of Section 6 of this regulation, all buildings located in the floodplain shall be protected from flood damage below the flood protection elevation. This building protection requirement applies to the following situations:

1. Construction or placement of a new building or alteration or addition to an existing building valued at more than one thousand dollars ($1,000) or seventy (70) square feet.

2. Substantial improvements or structural alterations made to an existing building that increase the floor area by more than twenty percent (20%) or equal or exceed the market value by fifty percent (50%). Alteration shall be figured cumulatively during the life of the building. If substantially improved, the existing structure and the addition must meet the flood protection standards of this section.

3. Repairs made to a substantially damaged building. These repairs shall be figured cumulatively during the life of the building. If substantially damaged the entire structure must meet the flood protection standards of this section.

4. Installing a manufactured home on a new site or a new manufactured home on an existing site. (The building protection requirements do not apply to returning a manufactured home to the same site it lawfully occupied before it was removed to avoid flood damage).

5. Installing a travel trailer or recreational vehicle on a site for more than one hundred eighty (180) days per year.

6. Repetitive loss to an existing building as defined in Section 2(CC).

B. Residential or non-residential buildings can meet the building protection requirements by one of the following methods:

1. The building may be constructed on permanent land fill in accordance with the following:

a. The lowest floor (including basement) shall be at or above the flood protection elevation.

b. The fill shall be placed in layers no greater than six inches before compaction and should extend at least ten (10) feet beyond the foundation before sloping below the flood protection elevation.

c. The fill shall be protected against erosion and scour during flooding by vegetative cover, riprap, or other structural measure.

d. The fill shall be composed of rock or soil and not incorporated debris or refuse material, and

e. shall not adversely affect the flow of surface drainage from or onto neighboring properties and when necessary stormwater management techniques such as swales or basins shall be incorporated.

2. The building may be elevated on solid walls in accordance with the following:

a. The building or improvements shall be elevated on stilts, piles, walls, crawlspace, or other foundation that is permanently open to flood waters.

b. The lowest floor and all electrical, heating, ventilating, plumbing, and air conditioning equipment and utility meters shall be located at or above the flood protection elevation.

c. If walls are used, all enclosed areas below the flood protection elevation shall address hydrostatic pressures by allowing the automatic entry and exit of flood waters. Designs must either be certified by a registered professional engineer or by having a minimum of one (1) permanent opening on each wall no more than one (1) foot above grade with a minimum of two (2) openings. The openings shall provide a total net area of not less than one (1) square inch for every one (1) square foot of enclosed area subject to flooding below the base flood elevation, and

d. the foundation and supporting members shall be anchored, designed, and certified so as to minimize exposure to hydrodynamic forces such as current, waves, ice, and floating debris.

i. All structural components below the flood protection elevation shall be constructed of materials resistant to flood damage.

ii. Water and sewer pipes, electrical and telephone lines, submersible pumps, and other service facilities may be located below the flood protection elevation provided they are waterproofed.

iii. The area below the flood protection elevation shall be used solely for parking or building access and not later modified or occupied as habitable space, or

iv. in lieu of the above criteria, the design methods to comply with these requirements may be certified by a registered professional engineer or architect.

3. The building may be constructed with a crawlspace located below the flood protection elevation provided that the following conditions are met:

4. The building must be designed and adequately anchored to resist flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

5. Any enclosed area below the flood protection elevation shall have openings that equalize hydrostatic pressures by allowing for the automatic entry and exit of floodwaters. A minimum of one opening on each wall having a total net area of not less than one (1) square inch per one (1) square foot of enclosed area. The openings shall be no more than one (1) foot above grade.

6. The interior grade of the crawlspace below the flood protection elevation must not be more than two (2) feet below the lowest adjacent exterior grade.

7. The interior height of the crawlspace measured from the interior grade of the crawl to the top of the foundations wall must not exceed four (4) feet at any point.

8. An adequate drainage system must be installed to remove floodwaters from the interior area of the crawlspace within a reasonable period of time after a flood event.

9. Portions of the building below the flood protection elevation must be constructed with materials resistant to flood damage, and

10. utility systems within the crawlspace must be elevated above the flood protection elevation.

C. Non-residential buildings may be structurally dry floodproofed (in lieu of elevation) provided a registered professional engineer or architect certifies that:

1. Below the flood protection elevation the structure and attendant utility facilities are watertight and capable of resisting the effects of the base flood.

2. The building design accounts for flood velocities, duration, rate of rise, hydrostatic and hydrodynamic forces, the effects of buoyancy, and the impact from debris and ice.

3. Floodproofing measures will be incorporated into the building design and operable without human intervention and without an outside source of electricity.

4. Levees, berms, floodwalls and similar works are not considered floodproofing for the purpose of this subsection.

D. Manufactured homes or travel trailers to be permanently installed on site shall be:

1. Elevated to or above the flood protection elevation in accordance with Section 7(B), and

2. anchored to resist flotation, collapse, or lateral movement by being tied down in accordance with the rules and regulations for the Illinois Mobile Home Tie-Down Act issued pursuant to 77 Ill. Adm. Code § 870.

E. Travel trailers and recreational vehicles on site for more than one hundred eighty (180) days per year shall meet the elevation requirements of section 7(D) unless the following conditions are met:

1. The vehicle must be either self-propelled or towable by a light duty truck.

2. The hitch must remain on the vehicle at all times.

3. The vehicle must not be attached to external structures such as decks and porches

4. The vehicle must be designed solely for recreation, camping, travel, or seasonal use rather than as a permanent dwelling.

5. The vehicles largest horizontal projections must be no larger than four hundred (400) square feet.

6. The vehicle's wheels must remain on axles and inflated.

7. Air conditioning units must be attached to the frame so as to be safe for movement of the floodplain.

8. Propane tanks as well as electrical and sewage connections must be quick-disconnect and above the 100-year flood elevation.

9. The vehicle must be licensed and titled as a recreational vehicle or park model, and

10. must either:

a. entirely be supported by jacks, or

b. have a hitch jack permanently mounted, have the tires touching the ground and be supported by block in a manner that will allow the block to be easily removed by used of the hitch jack.

F. Garages, sheds or other minor accessory structures constructed ancillary to an existing residential use may be permitted provided the following conditions are met:

1. The garage of shed must be non-habitable.

2. The garage or shed must be used only for the storage of vehicles and tools and cannot be modified later into another use.

3. The garage or shed must be located outside of the floodway or have the appropriate state and/or federal permits.

4. The garage or shed must be on a single family lot and be accessory to an existing principle structure on the same lot.

5. Below the base flood elevation, the garage or shed must be built of materials not susceptible to flood damage.

6. All utilities, plumbing, heating, air conditioning and electrical must be elevated above the flood protection elevation.

7. The garage or shed must have at least one permanent opening on each wall not more than one (1) foot above grade with one (1) square inch of opening for every one (1) square foot of floor area.

8. The garage or shed must be less than ten thousand dollars ($10,000) in market value or replacement cost whichever is greater or less than five hundred (500) square feet.

9. The structure shall be anchored to resist floatation and overturning.

10. All flammable or toxic materials (gasoline, paint, insecticides, fertilizers, etc.) shall be stored above the flood protection elevation.

11. The lowest floor elevation should be documented and the owner advised of the flood insurance implications.

208 . Section 8. Subdivision Requirements

The county shall take into account hazards, to the extent that they are known, in all official actions related to land management use and development.

A. New subdivisions, manufactured home parks, annexation agreements, planned unit developments, and additions to manufactured home parks and subdivisions shall meet the damage prevention and building protections standards of Sections 6 and 7 of this regulation. Any proposal for such development shall include the following data:

1. The base flood elevation and the boundary of the floodplain, where the base flood elevation is not available from an existing study, the applicant shall be responsible for calculating the base flood elevation;

2. the boundary of the floodway when applicable, and

3. a signed statement by a Registered Professional Engineer that the proposed plat or plan accounts for changes in the drainage of surface waters in accordance with the Plat Act (765 ILCS 205/2).

Streets, blocks lots, parks and other public grounds shall be located and laid out in such a manner as to preserve and utilize natural streams and channels. Wherever possible the floodplains shall be included within parks or other public grounds.

209 . Section 9. Public Health and Other Standards

A. Public health standards must be met for all floodplain development. In addition to the requirements of Sections 6 and 7 of this regulation the following standards apply:

1. No development in the floodplain shall include locating or storing chemicals, explosives, buoyant materials, flammable liquids, pollutants, or other hazardous or toxic materials below the flood protection elevation unless such materials are stored in a floodproofed and anchored storage tank and certified by a professional engineer or floodproofed building constructed according to the requirements of Section 7 of this ordinance.

2. Public utilities and facilities such as sewer, gas and electric shall be located and constructed to minimize or eliminate flood damage.

3. Public sanitary sewer systems and water supply systems shall be located and constructed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.

4. New and replacement on-site sanitary sewer lines or waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding. Manholes or other above ground openings located below the flood protection elevation shall be watertight.

5. Construction of new or substantially improved critical facilities shall be located outside the limits of the floodplain. Construction of new critical facilities shall be permissible within the floodplain if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor (including basement) elevated or structurally dry floodproofed to the 500-year flood frequency elevation or three feet above the level of the 100-year flood frequency elevation whichever is greater. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood elevation shall be provided to all critical facilities.

B. All other activities defined as development shall be designed so as not to alter flood flows or increase potential flood damages.

210 . Section 10. Carrying Capacity and Notification.

For all projects involving channel modification, fill, or stream maintenance (including levees), the flood carrying capacity of the watercourse shall be maintained.

300 . Stormwater Detention Regulations

301. Exclusions
302 .maximum controlled stormwater runoff release rate
303 . stormwater storage methods
304 . Calculations of required stormwater storage

305 . Applications for building permits

This section contains the text of **Sec. 50-258. Stormwater detention regulations** of the Natural Hazard Ordinance which are moved to this regulation unammended with the adoption of the Winnebago County Surface Water Management Ordinance. Its requirements follow:
Developments which increase the amount of impermeable area, such as the construction of roof structures, paved areas or compacted areas, shall be subject to the terms of this article.

301 (1) The following, however, shall not be included:

a. Traditional agricultural uses.

b. The construction of single-family dwellings on lots or parcels of land which were of record prior to August 12, 1976.

c. Modification of single-family dwellings which will continue to be used as single-family dwellings.

d. The use of lands adjacent and contiguous to and which discharge directly into the Rock, Pecatonica, Sugar, or Kishwaukee Rivers.

e. Improvement of existing roadways which does not increase the number of traffic lanes in the typical cross section of the roadway.

302 (2) The maximum controlled stormwater runoff release rate shall not exceed the natural safe stormwater drainage capacity of the downstream system, which has been found to be 0.2 cubic feet per second, per acre in the county. Pipe outlets of less than 12 inches in diameter shall not be allowed. Multiple outlets from a stormwater storage area shall be avoided if they are designed to be less than 12 inches in diameter. Removable orifice plates shall be employed when these pipe size requirements cannot be met.

303 (3) When the maximum controlled stormwater runoff release rate shall be exceeded, any or all of the following stormwater storage methods shall be provided and constructed:

a. *Dry bottom stormwater storage.* The following is the dry bottom stormwater storage method:

1. Dry bottom stormwater storage areas must be designed to serve a secondary purpose for recreation, open space or similar type of use, which will not be adversely affected by occasional intermittent flooding.

2. The combination of storage of major floodwater runoff from a 100-year return frequency storm and the allowable release rate shall not result in a storage duration in excess of 48 hours.

3. Minimum grades for turf areas shall be 0.5 percent (200 units horizontal to one vertical) and maximum side slopes shall be 25 percent (four units horizontal to one unit vertical). Storage area side slopes shall follow the natural land contours as closely as practicable, and a minimum of earth excavation shall be used to create the storage facility.

4. Temporary seeding or other soil stabilization measures shall be established in the stormwater storage area and major floodwater passageway immediately following the construction or reconstruction of these areas. During the construction of the overall development, it is recognized that a limited amount of sediment buildup may occur in the stormwater storage area due to erosion. In no case shall the volume of the storage area be reduced to less than three-quarters of the required volume during the construction phase of the development.

5. Permanent erosion control measures such as mulching, hydroseeding, conventional seeding, nurse crops, fertilizing or sod installation shall be utilized to control soil movement and erosion within the storage area and major floodwater passageway. These measures shall meet or exceed the standards established by the county soil and water conservation district. The installation of these permanent measures shall take place only after the majority of construction and other silt- and sediment-producing activities have been completed. Prior to the establishment of the permanent erosion control measures, the required capacity of the stormwater storage area and the excess stormwater passageway shall be restored.

6. The control structure shall be provided with an interceptor for trash and debris, and it shall be designed and constructed to prevent soil erosion and not to require manual adjustments for its proper operation. An inlet design that will produce turbulent flow conditions during any portion of the stormwater storage cycle will not be acceptable.

7. Adequate impact stilling basins shall be provided to ensure that downstream soil erosion is alleviated and the regime of the downstream drainage facility is not disturbed.

8. Each stormwater storage area shall be provided with a method of overflow in the event a storm in excess of the design capacity occurs. This overflow facility shall be constructed to function without specific attention and can become a part of the excess stormwater passageway described in this section.

9. The entire stormwater storage area shall be designed and constructed to fully protect the public health, safety and welfare. If a condition occurs in the stormwater storage area which is hazardous to the public health, safety or welfare, the person responsible for the condition will be required to provide approved corrective

measures. If these corrective measures are not provided, the county may eliminate the hazard at the expense of the person responsible.

10. Low flow conduits or channels shall be provided in stormwater storage areas. These conduits or channels shall be so constructed that they will not interfere with the secondary usage of the storage area and will reduce the frequency of time that the storage area will be covered with water.

b. *Wet bottom stormwater storage.* Wet bottom stormwater storage areas shall be designed in compliance with all the regulations which are applicable and govern the construction of dry bottom stormwater storage areas. The following additional regulations shall apply:

1. The water surface area of the permanent pool shall not exceed one-tenth of the area of the tributary watershed.
2. Protection of the shoreline must be provided to alleviate soil erosion due to wave action.
3. Minimum normal water depth shall be four feet. If fish are to be used to keep the pond clean, at least one-quarter of the pond area shall be a minimum of ten feet deep.
4. Facilities shall be provided to lower the pond elevation by gravity floor for cleaning purposes and shoreline maintenance.
5. The control structure for stormwater release shall be designed to operate at full design release rate with only a minor increase in the water depth in order to minimize the land surface wetted by frequent minor stormwater runoff conditions.
6. Measures shall be included in the design to prevent pond stagnation. This may be accomplished by fountain aeration or some other method used to ensure aerobic pond conditions.
7. The volume of water permanently stored shall not be considered to be part of the required excess stormwater storage volume.

c. *Paved stormwater storage.* Design and construction of the pavement base must ensure that there is no pavement damage due to flooding. Control structures in paved areas must be readily accessible for maintenance and cleaning. Vortex control devices will be required.

d. *Rooftop stormwater storage.* Rooftop storage of excess stormwater shall be designed and constructed to provide permanent control inlets and parapet walls to contain excess stormwater. Adequate structural roof design must be provided to ensure that roof deflection does not occur which could cause the roofing material to fail and result in leakage. Overflow areas must be provided to ensure that the weight of stored stormwater will never exceed the structural capacity of the roof.

e. *Automobile parking stormwater storage areas.* Automobile parking facilities used to store excess stormwater must be constructed having a maximum depth of stored stormwater of 1.5 feet; and these areas shall be located in the most remote, least used areas of the parking facility.

f. *Underground stormwater storage.* Underground stormwater storage facilities must be designed for easy access in order to remove accumulated sediment and debris. These facilities must be provided with a positive gravity outlet.

304 (4) Calculations of required stormwater storage shall be made as follows:

a. Any generally recognized and substantiated method acceptable to the administrator may be used for these calculations. The release rate of the outlet structure, when half of the storage area is filled, may be used in lieu of routing techniques in small drainage areas. The control structure shall be designed to maintain as uniform a flow as possible, independent of the stormwater storage volume. Where the proposed structure, project or land development forms only a portion of a watershed or contains portions of several watersheds, the storage volume calculations shall be based upon the area of the entire project, development or land use change. The maximum release rate shall be established by multiplying the total acreage of the tributary watershed by 0.2 cubic foot per second, per acre.

b. Stormwater storage areas which will be filled to capacity by high-frequency storms shall be designed in a manner that will protect immediate downstream properties, and all overflow structures shall be designed to function properly and effectively without the necessity of making manual adjustments. A larger outlet for stormwater storage may be permitted by the administrator for the orderly management of stormwater runoff where large tributary areas are developed without detention.

c. If the orderly management of the stormwater runoff cannot be achieved by passing the entire tributary area runoff through the stormwater storage area, the stormwater storage area shall be constructed to exclude the runoff from the tributary area originating outside of the area to be developed.

305 (5) Applications for building permits shall require the following:

a. Stormwater detention facilities shall be designed by and their construction supervised by a registered professional engineer.

b. Compliance with this section shall be as provided for in section 50-256. In addition, the following shall be required by the administrator:

1. Upon completion of construction, a set of record drawings certified by a registered professional engineer; and
2. An estimated schedule of development phases.

c. All applications for building permits shall contain a statement that such buildings or structures and appurtenances connected therewith include facilities for the orderly runoff or retention of rain and melting snow. Plans submitted with the application shall include a signed statement issued by a state registered professional engineer that the plans include facilities adequate to prevent harmful runoff. For single-family dwellings to be located in a subdivision meeting the requirements of this article, the signed statement may, in lieu of other application requirements, be placed on the face of the final plat.

d. When compliance with the stormwater detention requirements of this article will result in a facility, the volume of which is 0.3 acre-feet or less, the administrator may waive the requirement for that specific facility.

400 . Post Construction Runoff Quantity Controls

In principle, development plans should minimize those characteristics that result in the increase of stormwater runoff. The amount of impervious cover should be the minimum practical to meet the requirements of building, zoning, and subdivision regulations, those of the County and township highway authorities, and such other regulations as govern development activities.

401: Stormwater Detention is a control currently required by county ordinance. It is recognized that the controlled release rate referred to in these requirements (sec 304) is release to surface water. Some additional loss of inflow to a stormwater detention facility may be provided by some subsurface infiltration technique. The required detention volume can be reduced by such loss provided that:

401.1 the loss is based on a conservative estimate of the long term infiltration rate of the soil strata to which infiltration is intended. This analysis shall include conditions of saturated or frozen strata and the probable location of groundwater levels;

401.2 additional inspection and certification is guaranteed during the installation process so that the qualifying soil strata is confirmed in place; and that it is not clogged with fine material nor compacted by construction operations;

401.3 there is an acceptable maintenance plan for operation of the infiltration technique;

401.4 complete failure of the infiltion system does not result in flood hazard within the development or to adjacent properties;

401.5 an acceptable plan for restoration of the maximum controlled release rate is provided for the case of substantial or complete failure of the infiltration system; and

401.6 the prevention of groundwater contamination is reasonably assured.

402: Shallow depressional storage volumes, below a surface gravity outlet, cannot be used to partly or completely replace required stormwater detention storage volumes. Their benefit accrues largely to water quality: capturing small storm events, and filled with water and sediments prior to a major runoff event.

500 . reserved

600 . Construction Site Erosion and Sediment Control

605 . Sec. 5 General Principles
608 . Sec. 8 Erosion and Sediment Control Plan.
609 - 612 blank
613 . Sec. 13 Site design requirements.
614 . Sec. 14 Inspection.
615 . Sec. 15 Retention of plans.
616 . Sec. 16 Special precautions.

620 . Summary of Erosion and Sediment Control Requirements

This section contains the text of Sections 5, 8, 13 to 16, and summary of the model **Construction Site Erosion and Sediment Control Ordinance,** drafted and put through public review by the Winnebago County Association

for Clean Water Action, WinACWA, 2004; and customized for county government to meet its requirements under NPDES Phase II.

605 . Sec. 5 General Principles.
It is the objective of these regulations to control soil erosion and sedimentation caused by development activities, including clearing, grading, stripping, excavating, and filling of land, in the County of Winnebago. Measures taken to control soil erosion and offsite sediment runoff should be adequate to assure that sediment is not transported from the site by wind erosion or a storm event of ten-year frequency or less. The following principles shall apply to all development activities within the County of Winnebago and to the preparation of the submissions required under Sections 8 and 9 of this ordinance:

(a)Development should be related to the topography and soils of the site so as to create the least potential for erosion. Areas of steep slopes where high cuts and fills may be required should be avoided wherever possible, and existing contours should be followed as closely as possible.

(b)Natural vegetation should be retained and protected wherever possible. Areas immediately adjacent to existing watercourses, lakes, ponds, and wetlands should be left undisturbed wherever possible. Temporary crossings of watercourses, when permitted, must include appropriate stabilization measures.

(c)Special precautions should be taken to prevent damages that occur due to any necessary development activity within or adjacent to any stream, lake, pond, or wetland. Preventative measures must be commensurate with the sensitivity of these areas to erosion and sedimentation.

(d)The smallest practical area of disturbance should be exposed for the shortest practical time during development.

(e)Sediment basins or traps, filter barriers, diversions, and any other appropriated sediment or runoff control measures should be installed prior to site clearing and grading and maintained to control and remove sediment from run-off waters from land undergoing development.

(f)The selection of erosion and sedimentation control measures should be based on site limitations, project duration, and other factors to provide the necessary site protection during the construction development activity.

(g)In the design of erosion control facilities and practices, aesthetics and the requirements of continuing maintenance shall be considered.

(h)Permanent vegetation and runoff control structures shall be installed and functional as soon as practical during development.

(i)All waste generated as a result of site development activity shall be properly disposed of and should be prevented from being carried off the site by either wind, water, or artificial means.

(j)All construction sites shall provide measures to prevent sediment from being tracked onto public or private roadways.

608 . Sec. 8 Erosion and Sediment Control Plan.

The Owners of the property or his/her authorized designee shall prepare and submit an **Erosion and Sediment Control Plan** (Plan) to the County of Winnebago at the time of proposed land disturbing activities. These submissions shall be prepared in accordance with the requirements of this Article and the standards and requirements contained in the NPDES Permit No. ILR10 prepared by the Illinois Environmental Protection Agency and the Illinois Urban Manual prepared by the Natural Resources Conservation Service and adopted by the Boone and Winnebago County Soil and Water Conservation District, which standards and requirements are hereby incorporated into this ordinance by reference. General guidance can be found in the *Illinois Urban Manual* under the section, ***Storm Water Management For Construction Activities , Developing Pollution Prevention Plans and Best Management Practices***. Each plan shall contain the following information:

(a) The name(s) address(es) and telephone number(s) of the owner or [and] developer of the site and of any consulting firm retained by the applicant together with the name of the applicant's principle contact at such firm.

The owner must sign a copy of the certification statement. The certification must be included in the plan:

“I certify under penalty of law that this document and all attachments were prepared in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment of knowing violations.”

(b) The name, address and telephone number of the general contractor(s) that have been identified at the time of the submittal. Identify the contractor(s) or subcontractor(s) implementing each measure of the plan. All contractor(s) and subcontractor(s) identified in the plan must sign a copy of the certification statement. All certifications must be included in the plan except for owners acting as contractor(s).

“I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit No. ILR10 and [Chapter 78], Erosion and Sediment Control ordinance that authorizes the storm water discharges associated with the construction activities and site identified as part of this certification.”

(c) A vicinity map in sufficient detail to enable easy location in the field of the site for which the permit is sought, and including the boundary line and approximate acreage of the site, existing zoning, and a legend and scale;

(d) A development plan of the site showing:

(1) Existing topography of the site and adjacent land within approximately 100 feet of the boundaries, drawn at no greater than two-foot contour intervals and clearly portraying the conformation and drainage pattern of the area.

(2) The location of existing buildings, structures, utilities, streams, lakes, floodplains, wetlands and depressions, drainage facilities, vegetative cover, paved areas, and other significant natural or man-made features on the site and adjacent land within 100 feet of the boundary.

(3) A general description of the predominant soil types on the site, their location, and their limitations for the proposed use.

(4) Proposed use of the site, including present development and planned utilization; areas of clearing, stripping, grading, excavation, and filling; finished grades, and street profiles; provisions of storm drainage, including storm sewers, swales, detention basins and any other measures to control the rate of runoff, with a drainage area map, indications of flow directions and computations; kinds and locations of utilities; and areas and acreages proposed to be paved, covered, sodded or seeded, vegetatively stabilized, or left undisturbed.

(e) Erosion and sediment controls showing all measures necessary to meet the objectives of this ordinance throughout all phases of construction and permanently after completion of development of the site, including:

(1) Location and description, including standard details, of all sediment control measures and design specifics of sediment basins and traps, including outlet details.

(2) Plans should ensure existing vegetation is preserved where attainable and disturbed portions of the site are stabilized. Stabilization practices may include, but not limited to: temporary seeding, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Location and description of all soil stabilization and erosion control measures, including seeding mixtures and rates, types of sod, method of seedbed preparation, expected seeding dates, type and rate of lime and fertilizer application, kind and quantity of mulching for both temporary and permanent vegetative control measures, and types of non-vegetative stabilization measures.

a. Stabilization measures will be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased.

b. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently snow cover precludes ease, stabilization measures shall be initiated as soon as practicable.

c. Where construction activity will resume on a portion of the site within 21 days from when activity ceased, (i.e. the total time period that construction activity is temporarily ceased is less than 21 days) then stabilization measures do not have to be initiated on that portion of the site by the 14th day after construction activity temporarily ceased.

(3) Location and description of all runoff control measures, including diversions, waterways, and outlets.

(4) Location and description of methods to prevent tracking of sediment offsite, including construction entrance details, as appropriate.

(5) Description of dust and traffic control measures.

(6) Locations of stockpiles and description of stabilization methods.

(7) Description of off-site fill or borrow volumes, locations, and methods of stabilization.

(8) Provisions for maintenance of control measures, including type and frequency of maintenance, easements, and estimates of the cost of maintenance.

(f) The proposed phasing of development of the site, including stripping and clearing, rough grading and landscaping. Phasing should identify the expected date on which clearing will begin and the estimated duration of exposure of cleared areas, and the sequence of installation of temporary sediment control measures (including perimeter controls), clearing and grading, installation of temporary soil stabilization measures, installation of storm drainage, paving streets and parking areas, final grading and the establishment of permanent vegetative cover, and the removal of temporary measures. It shall be the responsibility of the applicant to notify the County of Winnebago of any significant changes that occur in the site development schedule after the initial erosion and sediment control plan has been approved;

(g) A copy of the completed Notice of Intent (NOI) required by the Illinois Environmental Protection Agency.

(h) A copy of the completed Illinois Department of Natural Resources Consultation Agency Action Report.

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613 . Sec. 13 Site design requirements.

On-site sediment control measures, as specified by the following criteria, shall be constructed and functional prior to initiating clearing, grading, stripping, excavation, or fill activities on the site.

(a) Land disturbance activities in stream channels shall be avoided, where possible. If disturbance activities are unavoidable, the following requirements shall be met:

1. Construction vehicles shall be kept out of the stream channel to the maximum extent practicable. Where construction crossings are necessary, temporary crossings shall be constructed of non-erosive material, such as riprap or gravel.

2. The time and area of disturbance of stream channels shall be kept to a minimum. The stream channel, including bed and banks, shall be restabilized within 48 hours after channel disturbance is completed, interrupted, or stopped.

3. Whenever channel relocation is necessary, the new channel shall be constructed in the dry and fully stabilized before flow is diverted.

(b) Sediment traps or anchored filter barriers meeting accepted design standards and specifications outlined in the Illinois Urban Manual shall protect storm sewer inlets and culverts.

(c) Soil storage piles containing more than 10 cubic yards of material shall not be located with a downslope drainage length of less than 25 feet to a roadway or drainage channel. Filter barriers, including straw bales, filter fence, or equivalent, shall be installed immediately on the downslope side of the piles.

(d) If dewatering devices are used, discharge locations shall be protected from erosion. All pumped discharges shall be routed through appropriately designed sediment traps or basins, or equivalent.

(e) Each site shall have graveled (or equivalent) entrance roads, access drives, and parking areas a minimum of fifty feet long and 12 feet wide to prevent [minimize] sediment from being tracked onto public or private roadways. Any sediment reaching a public or private road shall be removed by shoveling or street cleaning (not flushing) before the end of each workday and transported to a controlled sediment disposal area.

(f) All temporary and permanent erosion and sediment control practices must be maintained and repaired as needed to assure effective performance of their intended function.

(g) All temporary erosion and sediment control measures shall be disposed of within 30 days after final site stabilization is achieved with permanent soil stabilization measures. Trapped sediment and other disturbed soils resulting from the disposition of temporary measures should be permanently stabilized to prevent further erosion and sedimentation.

614 . Sec. 14 Inspection.

The [inspector] shall make inspections as hereinafter required and shall either approve that portion of the work completed or shall notify the applicant wherein the work fails to comply with the erosion and sedimentation control plans as approved. In order to obtain inspections and to ensure compliance with the approved erosion and sediment control plan and this ordinance, the applicant shall notify the [inspector] within two (2) working days of the completion of the construction stages specified below:

(a) Upon completion of installation of sediment and runoff control measures (including perimeter controls and diversions), prior to proceeding with any other earth disturbance or grading,

(b) After stripping and clearing,

(c) After seeding and landscaping deadlines, and

(d) After final stabilization and landscaping, prior to removal of sediment controls.

If stripping, clearing, grading and/or landscaping are to be done in phases or areas, the applicant shall give notice and request inspection at the completion of each of the above work states in each phase or area.

The County of Winnebago shall also reserve the right to inspect disturbed areas of the construction site that have not been finally stabilized, structural control measures, and locations where vehicles enter or exit the site at least once every seven (7) calendar days and within 24 hours of the end of a storm that is 0.5 inches or greater or equivalent snowfall.

615 . Sec. 15 Retention of plans.

The applicant shall retain copies of plans and all reports for a period of at least three (3) years from the date the site is finally stabilized. The applicant shall also retain a copy of the plan at the construction site from the date of project initiation to the date of final stabilization.

616 . Sec. 16 Special precautions.

(a) If at any stage of the grading of any development site the [inspector] determines by inspection that the nature of the site is such that further work authorized by an existing building permit is likely to imperil any property,

public way, stream, lake, wetland, or drainage structure, the [inspector] may require, as a condition of allowing the work to be done, that such reasonable special precautions to be taken as is considered advisable to avoid the likelihood of such peril. Special precautions may include, but shall not be limited to, a more level exposed slope, construction of additional drainage facilities, berms, terracing, compaction or cribbing, installation of plant materials for erosion control, and recommendations of a registered soils engineer and/or engineering geologist which may be made requirements for further work.

(b) Where it appears that storm damage may result because the grading on any development site is not complete, work may be stopped and the applicant may be required to install temporary structures of take such other measures to protect adjoining property or the public safety.

(c) Major amendments of the erosion and sediment control plan shall be submitted to the County of Winnebago and shall be processed and approved or disapproved in the same manner as the original plans. The County of Winnebago may authorize field modifications of a minor nature by written authorization to the applicant.

County of Winnebago
SUMMARY OF THE NEW EROSION AND SEDIMENT CONTROL ORDINANCE

Purpose of this document:

1.To give contractors, developers, and consultants warning that Winnebago County is implementing a comprehensive erosion and sediment control ordinance
2.This ordinance will prepare developments for the NPDES Phase II requirements, which took effect March 2003.

Main principals of this comprehensive erosion and sediment control ordinance:

1.Design developments to fit existing topography and natural drainage patterns
2.Protect natural vegetation on site
3.Prevent sediment from entering adjacent watercourses
4.Reduce the exposure of disturbed soil
5.Methods of different erosion control structures and practices
6.Continue maintenance of control structures and establish permanent vegetation
7.Dispose of waste generated from site development activity
8.Reduce storm water runoff velocities
9.Prevent sediment on roadways

This comprehensive erosion and sediment control ordinance applies to:

1.NPDES Phase II projects after March 2003 (development activity affecting an area greater than or equal to 1 acre)
2.Any land disturbing activity that may discharge soil and erosion into any storm water conveyance system
3.If development activity is determined to be causing or contributing to existing or potential new erosion of sediment or impacting the storm water conveyance system

All erosion and sediment control plans, contained within the ordinance, will require the following:

1.Certification Sec. 8.a signed by owner and engineer. Must include principal contact with address and phone number.
2.Certification Sec. 8b signed by contractor for all NPDES permit projects (contractor may sign the approved erosion and sediment control plan if the project is not under a NPDES permit)
3.Vicinity map of the project
4.A development plan showing:
i.Existing topography
ii.Location of existing structures, buildings, and waterbodies, etc.
iii.Predominant soil types
iv.Proposed use of the site
v.Appropriate erosion and sediment controls
a.Silt fence, sediment basins and traps, earth dikes, drainage swales, check dams, storm drain inlet protection, rock outlet protection, risers, etc.
b.Construction entrances
c.Stabilization (needs to be implemented within 14 days once construction stops) i.e. temporary seeding,

permanent seeding, geotextiles, and sod

Inspection/Enforcement:

1.The principle contact must observe construction to assure the project is following the approved erosion and sediment control plan

2.The [inspector] shall make regular inspections

3.The County of Winnebago may require special precautions beyond the approved erosion and sediment control plan

4.The County of Winnebago will verbally warn the principal contact that an erosion and sediment control plan is not being followed or a “special precaution” is needed

5.If no action is taken after 3 days of the verbal warning, the County of Winnebago will warn in writing the principal contact of the violation or of the “special precaution”

6.If no action is taken after 3 days of the written warning, a stop-work order will be issued.

Violations and Penalties:

1.A Certificate of Occupancy permit will not be granted

2.Fine of not more than $500.00 for each offense

700Post Construction Runoff Quality Controls

The County encourages developments that incorporate post construction runoff quality controls (PCRQC's) beneficial to water quality. However the county has not established means to measure or estimate pollutant loads or rates characteristic of development types nor standards to assess the compliance of outflows. Until the adoption of Total Maximum Daily Loads, or some other design and performance goals, any specific PCRQC's will not be required. But their presence shall be included and described (including maintenance provisions) in the proposed site development plan, with the following provisos:

701.1they are part of the stormwater conveyance system, covered elsewhere in this regulation,
701.2when included in the public rights of way, they must be approved by the appropriate road jurisdiction,
701.3they must not create a nuisance or hazard; and to avoid that perception, the developer shall inform prospective buyers of their existence and operation,
401.4 the prevention of groundwater contamination is reasonably assured.

{Low Impact Development Principles: grass swales vs. curb and gutter and storm sewers, }

Notwithstanding the conditions for wet- and dry-bottomed stormwater storage areas in Sec 400, the freeboard above a surface water release structure may be used to meet stormwater detention volume requirements.

800 . reserved

900 . reserved

999 End of Technical Regulations Adopted by Winnebago County Board

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1000 . Surface Water Management Guidance

Under Sec. 50-249, Administration of the Surface Water Management Ordinance is the responsibility of the administrator, who has the duty to review plans for developments governed by the ordinance; and the authority to approve or deny permits, or find implementations in violation. In this capacity, the administrator must exercise sound engineering judgment in areas which go beyond even the detail of the Surface Water Management

Technical Regulations. A Surface Water Management Technical Guidance is created as an administrative tool for such areas. Such areas are, for example:

1000.1: Surface water hydraulics and hydrology. Specifically, what techniques, data, coefficients, computer programs, etc. may or may not be acceptable under the circumstances of a given development to adequately estimate the design flow rates for the specified recurrence interval; and then what methods and assumptions could be used to evaluate the capacity of the receiving conveyance system, or

1000.2: Pollutant type and removal rate. Possibly, what pond configuration, filtration media, and/or chemical additives can be expected achieve what pollutant removal rate, operating at what maintenance cycle, with inputs of some volume and contamination level, to meet any future TMDL requirement.

1001: To maintain proficiency in reviewing plans and implementations, the administrator needs to maintain a knowledge base of proven, scientifically acceptable technology, both analytical and physical; and

1002:Be open to new technologies as they are proven; and

1003:Share that knowledge with applicants.

1010:This guidance may be called by reference, or it can be appended to the Technical Regulations, as herein, for ease of distribution.

1100 . General Guidance

1101:The Illinois Department of Transportation Drainage Manual is recognized as a good reference, both for general techniques and local conditions. One should note the ISWS Bulletin 70 Rainfalls are in the Appendix as well as Huff rainfall distributions. It can be downloaded from the IDOT website.
http://www.dot.il.gov/bridges/brmanuals.html
(The Drainage Manual is 47,812 kb in .pdf format. Be prepared! The Bridge Office maintains a number of other manuals from this site, also.)

1200 . Guidance re: Floodplain Regulations

1206: The SWMO acknowledges Statewide Permits issued by IDNR/OWR and the County reserves the discretion to use them as indicators of compliance, but does not adopt them as blanket exemptions outside SFHA's. IDNR/OWR's threshold of regulation is a drainage area of at least 1 square mile. Winnebago County uses floodway regulations on as small as 5 acres, and defines floodways the same way they are determined in floodplain mapping: i.e. encroachment is defined as 0.1 foot stage increase over 'existing' conditions. This is inconsistent with SWP#2. Also 500 s.f. Accessory Structures under SWP#10 would not be appropriate in a 20 foot wide drainage easement. Being more restrictive is consistent with 44 CFR 60.3(d) as minimum requirements.

1300 . Guidance re: Stormwater Detention Regulations

1304:The first sentence of paragraph a has been deleted from the original ordinance. Using "shall be...", had been in conflict with the following 2 sentences. It refers to a methodology (modified rational method) that would only be generally recognized for a small drainage area, where "may be..." is operational. The Technical Guidance reflects on this, and the routing techniques mentioned.

The Technical Regulations refer to "routing techniques" for all but "small drainage areas". Operationally, this means insignificant, not only in size but location in the context of current and future development in the drainage basin. Some urban and urbanizing jurisdictions (eg. Kane Co., which the City of Rockford may emulate in this respect) are requiring the 100-year, 24-hour duration rain, with AMC 2, be routed. The Department is currently open to arguments based on merit for any method, but one should expect that consistency with methods used by an adjacent jurisdiction will carry some weight.

1400 . Post Construction Runoff Quantity Controls

1401: The administrator's concern is that a soil absorption system relies on conditions which cannot be observed directly. There are possibilities that a poorly envisioned or constructed soil absorption system will not function as its design analysis assumes from the day it is installed. More likely, over time, its performance will be degraded by the accumulation of fine particles or debris. The problem is that a system that operates properly in low-flow conditions, which are seldom a problem with flooding, wouldn't reveal a failure until stressed by high flows, precisely when flood control is needed. On the other hand, a system might work too well, if contaminants are present and not intercepted in some way. For example, direct runoff from a gas station should not be drained directly to a drywell, due to the ordinary accumulation of gas and oil drips, and possibility of more disastrous spills.

Zoning Description(s)

Sec. 7.2. AG Agricultural Priority District.

7.2.1 *Purpose.* The AG Agricultural Priority District is intended to promote and protect agricultural land and the agricultural industry which is vitally important to Winnebago County's economy. The standards of the AG District are to protect and promote the continuation of farming, and to protect agricultural land uses from incompatible residential developments. The AG District is intended to implement the agricultural policies outlined in the Winnebago County 2030 Land Resource Management Plan.

7.2.2 *Uses.* Uses are allowed in the AG District in accordance with Table 7.1.

7.2.3 *Bulk and Yard Standards.* Development in the AG District is subject to the bulk and yard standards of Table 7.2.

Sec. 7.3. A-1 Agricultural District.

7.3.1 *Purpose.* The A-1 Agricultural District is intended to promote and protect agricultural land. The standards of the A-1 District are to protect and promote the continuation of farming, and to protect agricultural land uses from incompatible residential developments. New applications for this district are most appropriate within one and one-half (1.5) miles of an incorporated municipality and within one-half (0.5) mile of an unincorporated municipality's (hamlet's) growth area as shown on the future land use map of the 2030 Land Resource Management Plan.

7.3.2 *Uses.* Uses are allowed in the A-1 District in accordance with Table 7.1.

7.3.3 *Bulk and Yard Standards.* Development in the A-1 District is subject to the bulk and yard standards of Table 7.2.

Sec. 7.4. A-2 Agriculture-Related Business District.

7.4.1 *Purpose.* The A-2 Agriculture-Related Business District is intended to promote business actively and directly used by those engaged in the pursuit of agricultural activities. The A-2 District is intended to implement the agri-business land use policies outlined in the Winnebago County 2030 Land Resource Management Plan. New applications for this district are most appropriate where solely Agriculture is encouraged on the 2030 Land Resource Management Plan, when not in platted subdivisions nor near residential clusters and when deemed that all uses allowed by the District are compatible with adjacent properties.

7.4.2 *Uses.* Uses are allowed in the A-2 District in accordance with Table 7.1.

7.4.3 *Bulk and Yard Standards.* All development in the A-2 District is subject to the bulk and yard standards of Table 7.2.

Sec. 7.5. OS Open Space District.

7.5.1 *Purpose.* The OS Open Space District is intended to accommodate and protect current and future lands intended for public and private open space needs in the County. Only uses that are compatible with or otherwise support recreational, resource conservation or other open space needs are allowed within the district. The OS District is not intended to primarily accommodate new development but rather to respond directly to the County's open space needs.

7.5.2 *Uses.* Uses are allowed in the OS District in accordance with Table 7.1.

7.5.3 *Bulk and Yard Standards.* All development in the OS District is subject to the bulk and yard standards of Table 7.2.

Sec. 7.6. Permitted and Special Uses.

7.6.1 *Use Table.*

Table 7.1: Agricultural and Open Space Districts Permitted and Special Uses lists permitted and special uses for the agricultural and open space districts. A "P" indicates that a use is permitted within that district. A "S" indicates that a use is a special use in that district and must obtain a special use permit. No letter (i.e., a blank space), or the absence of the use from the table, indicates that use is not permitted within that district.

TABLE 7.1: AGRICULTURAL AND OPEN SPACE DISTRICTS PERMITTED AND SPECIAL USES					
USE	**AG**	**A-1**	**A-2**	**OS**	**USE STANDARD**
RESIDENTIAL					
Accessory Living Quarters	P	P	P		Section 15.3.1
Bed and Breakfast	S	S	P		Section 15.3.4
Caretaker's Dwelling or Caretaker's Dwelling Unit(s) - Accessory to an Agricultural Use (20 acre minimum per dwelling / unit)	P	P	P		
Day Care Home	P	P	P		Section 15.3.10
Dwelling, Single-Family - Must meet standards of Section 7.7.2 A., 7.7.2 B. or 7.7.2 C.	P	P	P		Section 7.7.2 A., 7.7.2 B. or 7.7.2 C.
Dwelling, Single-Family - Must meet standards of Section 7.7.2 D.	S	S			Section 7.7.2 D.
Vacation Rentals	S	S	S		
OPEN SPACE					
Campgrounds (when not gov't owned and operated; 6 acre minimum)	S	S	S	S	
Cemetery, Crematorium or Mausoleum (500 foot setback from residence(s))	S	S	P/S*	S	* Special use required for lots less than 6 acres
Country Club	S	S	P	S	
Driving Range	S	S	P/S*	S	* Special use required if operating after dusk under lights
Forest Preserve	P	P	P	P	
Golf Course	S	S	P	S	
Outdoor Recreation	S	S	P	S	
Park or Playground	P	P	P	P	
Sports Club (not inclusive of shooting)	S	S	P	S	
Tourist Facility	S	S	P		
Wildlife Rehabilitation Facility (for native animals)			P/S*	S	*Special use required for non-native animals
INSTITUTIONAL					
Community Residence - Small	S	S	P		
Education Facility, Agricultural - Accessory to Principal Agricultural Use (5 acre minimum except in A-2)	P/S*	P/S*	P	S	*Special use required for lots less than 5 acres
Education Facility, Primary and Secondary (5 acre minimum except in A-2)	P/S*	P/S*	P	S	*Special use required for lots less than 5 acres
Education Facility, Vocational	S	S	S	S	

Government Facility (3 acre minimum except in A-2)	P/S*	P/S*	P	P/S*	*Special use required for lots less than 3 acres
Penal and Correctional Institutions			S		
Place of Worship (5 acre minimum except in A-2) Group Quarters (accessory to Place of Worship)	P/S* S	P/S* S	P P	S S	*Special use required for lots less than 5 acres
Retreat Center	S*	S*	S		*Special use is ONLY available in these Districts on a zoning lot that is no less than 15 acres in size and is for uses that were lawfully established prior to the adoption of this Ordinance (June 11, 2015) that currently function as/meet the definition of a retreat center which in some cases may not have been categorized as same due to the terminology within the prior codes.
Social Club or Lodge	S	S	P	S	Section 15.3.27
AGRICULTURAL					
Agriculture (excludes uses listed in this section)	P	P	P	P	
Agri-business (i.e. apple orchards, pumpkin patches, U-picks, etc.)	S	S	P		
AG Road Stands (for produce grown on-site; temporary)	P	P	P	P	Section 18.5.3
Concentrated Animal Feeding Operation (CAFO)	S	S	S		Section 15.3.7
Feedlot	P	P	P		
Forestry	P	P	P		
Grain Storage and/or Elevator	P	P	P		
Slaughterhouse			S		Section 15.3.26
Stable	P	P	P	P	
Stockyard	P	P	P		
Vineyard	P	P	P	P	
COMMERCIAL					
Agricultural Sales and/or Service Establishment	S	S	P		
Animal Hospital	S	S	P		Section 15.3.3
Bait Shop (as an accessory to the occupant of the residence)	S	S	P		
Broadcast Facilities (Radio, TV)	S	S	P		
Contractor Shop, not inclusive of Landscape or Tree Service Business (enclosed within a	S	S	P		Section 15.3.8

building, no outdoor storage and as an accessory to the occupant of the residence)					
Greenhouse/Nursery (commercial, retail sales directly to public; outside display/storage is limited to flowers, plants, shrubs and trees)	S	S	P		
Kennel (as an accessory to the occupant of the residence)	S	S	S		Section 15.3.3
Landscape or Tree Service Business (enclosed within a building, no outdoor storage and as an accessory to the occupant of the residence)			P		Section 15.3.8
Medical Cannabis Cultivation Center			S		Section 15.3.15
Medical or Dental Clinic/Office (enclosed within a building, no outdoor storage and as an accessory to the occupant of the residence)	S	S	P		
Outdoor Entertainment, not including horse events or rodeos	S	S	S		
Reuse of an Existing AG Building as an accessory to the occupant of the residence (Building must be 10 years or older; only for a use not hereby mentioned in this Table and must be a permitted use within CN District or IL District)			S		
Riding Academy, Horse Events, or Rodeos	S/P*	S/P*	S/P*	S*	*Only a riding academy is permitted
Small Engine Service and Repair or Small Automotive Service and Repair (enclosed within a building, no outdoor storage and as an accessory to the occupant of the residence)			S		
Shooting Range or Club	S	S	S		
Wedding and/or Reception Facility	S	S	S		
Winery (accessory to a vineyard)	S	S	P/S*		*Special use required for lots less than 6 acres
Zoo or Animal Sanctuary			S	S	
INDUSTRIAL					
Airport or Restricted Landing Area	S	S	S	S	
Batch Plant or Crushing & Storage Facility (Asphalt or Concrete)	S	S	S		
Ethanol Plant			P*		*1,200 foot setback from residence(s) and residential zoning
Junk Yard			S		
Composting Facility	S	S	S		
Meteorological Tower	P	P	P		
Mining, Excavating, Oil and Gas Drilling, or Rock Strata Fracturing (Fracking)	S	S	S	S	Section 15.3.17

Contractor Storage Yard (accessory to Landscape or Tree Service Business)			S		Section 15.3.29
Power Plant, but not inclusive of a Solar Farm and a Wind Power Generating Facility	S	S	S		
Research and Development Facility - Agriculture Related			P		
Sawmill	S	S	P		Section 15.3.25
Solar Farm			P		Section 15.3.28
Wind Energy System (private; site service only; 1 per lot; 1 acre min.)	P/S*	P/S*	P/S*	S	*Special use required for lots less than 1 acre Section 18.3.17 & Table 18.1
Wind Power Generating Facility (commercial)	P	P	P		Article 17
Wrecking Yard			S		Section 15.3.14
OTHER					
Filling of or Dumping in Pits, Quarries, Lowlands and Similar (clean fill only; filling with refuse and/or food waste prohibited)	S	S	S	S	
Parking Structure			S	S	
Parking for one (1) Semi-cab with one (1) Accessory Trailer, if applicable or for one (1) Heavy Commercial Vehicle other than a Semi-cab / Trailer (as an accessory to the occupant of the residence, on a parcel of land no less than 5 acres and not within a recorded subdivision plat)	S*	S*	S*		*Vehicle and trailer must be licensed and in street operable condition; shall not exceed 15 consecutive days without being driven off-site (unless adjacent road is temporary posted preventing said); shall not exceed weight limits of adjacent roads; shall be driven by the occupant of the residence on the subject property; shall be parked behind building setback line on an appropriate surface or within an enclosed structure; and an abandoned or inoperable vehicle is considered junk and in violation of this permit. This permit does not apply to AG related vehicles used for AG pursuits.
Utilities	P/S*	P/S*	P	S	*Special use required for lots greater than 3 acres in size and/or for any size

					lot within 1,200 feet of a residential subdivision. Section 15.3.30
Wireless Telecommunications	P	P	P	S	

(Ord. No. 2018-CO-120, 11-9-18; Ord. No. 2019-CO-032, 3-14-19)

Sec. 7.7. Bulk and Yard Standards.

7.7.1 *Bulk and Yard Standards Table.*

Table 7.2: Agricultural and Open Space Districts Bulk and Yard Standards contains the bulk and yard standards for the agricultural and open space districts.

TABLE 7.2 AGRICULTURAL AND OPEN SPACE DISTRICTS BULK AND YARD STANDARDS				
	AG	**A-1**	**A-2**	**OS**
BULK STANDARDS				
MINIMUM LOT AREA	Agriculture: None, but subject to State Plat Act as well as any applicable septic and well regulations Single-Family Dwelling: See Section 7.7.2 All Other Uses: 25,000sf, unless noted in Table 7.1	Agriculture: None, but subject to State Plat Act as well as any applicable septic and well regulations Single-Family Dwelling: See Section 7.7.2 All Other Uses: 25,000sf, unless noted in Table 7.1	Agriculture: None, but subject to State Plat Act as well as any applicable septic and well regulations Single-Family Dwelling: See Section 7.7.2 All Other Uses: 25,000sf, unless noted in Table 7.1	Agriculture or Natural Area: None, but subject to State Plat Act as well as any applicable septic and well regulations All Other Uses: 25,000sf, unless noted in Table 7.1
MINIMUM LOT WIDTH	Agriculture: None, but subject to State Plat Act as well as any other applicable codes and ordinances. Single-Family Dwelling: See Section 7.7.2 All Other Uses: 250 ft at building setback line and on public road.	Agriculture: None, but subject to State Plat Act as well as any other applicable codes and ordinances. Single-Family Dwelling: See Section 7.7.2 All Other Uses: 250 ft at building setback line and on public road.	Agriculture: None, but subject to State Plat Act as well as any other applicable codes and ordinances. Single-Family Dwelling: See Section 7.7.2 All Other Uses: 150 ft at building setback line and on public road.	Agriculture or Natural Area: None, but subject to State Plat Act as well as any other applicable codes and ordinances. All Other Uses: 250 ft at building setback line and on public road.

MAXIMUM BUILDING HEIGHT	Single-Family Dwelling: 35 ft All Other Uses: 50 ft, unless noted elsewhere	Single-Family Dwelling: 35 ft All Other Uses: 50 ft, unless noted elsewhere	Single-Family Dwelling: 35 ft All Other Uses: 50 ft, unless noted elsewhere	35 ft, unless noted elsewhere
MAXIMUM IMPERVIOUS SURFACE	Single-Family Dwelling: 40% All Other Uses: 60%	Single-Family Dwelling: 40% All Other Uses: 60%	Single-Family Dwelling: 40% All Other Uses: 65%	35%
MINIMUM YARD STANDARDS				
FRONT YARD	30 ft	30 ft	30 ft	30 ft
INTERIOR SIDE YARD	10 ft	10 ft	10 ft	10 ft
CORNER SIDE YARD	30 ft	30 ft	30 ft	30 ft
REAR YARD	25 ft	25 ft	25 ft	25 ft

7.7.2 *Single-Family Dwellings in the AG, A-1 & A2 Districts.* Single-family dwellings in the AG, A-1 and A-2 Districts are subject to the following additional standards.

A. One (1) single-family dwelling is permitted per entire vacant, not divided, quarter-quarter section in AG, A-1, and A-2 Districts. Such dwelling must meet the following:

1. The lot of record or parcel of land on which the dwelling will be constructed has at least two-hundred fifty (250) feet of lot frontage on a public road or private road created by a recorded plat of subdivision.

2. The dwelling must be located at least one thousand three hundred twenty (1,320) feet from any feedlot or concentrated animal feeding operation of 50 animal units or greater.

3. Compliance with Section 18.2.1 B.

(1) A quarter-quarter section improved with a single-family home may be reduced in lot area and/or lot frontage and remain conforming provided the lot was created after June 24, 1982 and complies with septic regulations, lot frontage is no less than two-hundred fifty (250) feet and all other applicable codes and ordinances are met.

B. However, an additional single-family dwelling (or increased density amounting to same) is permitted in a quarter section according to the below criteria.

1. For the AG, A-1, and A-2 Districts, an additional single-family dwelling is permitted in a quarter-quarter section provided the above 7.7.2 A.1. as well as the following are met:

a. The entire quarter-quarter section of interest is contained within an undivided single lot or parcel of record as of June 24, 1982.

b. The applicant submits the following as part of the zoning clearance application:

i. Clear and convincing evidence that the property in question (the new zoning lot) is not suitable for agricultural use. This shall require evidence that:

a. Eighty percent (80%) or more of the proposed lot contains land defined as non-prime farmland by the County Soil and Water Conservation District; and/or

b. Significant manmade or natural barriers exist that preclude the use of the proposed lot for a suitable agricultural use.

c. The dwelling must be located at least one thousand three hundred twenty (1,320) feet from any feedlot or concentrated animal feeding operation of 50 animal units or greater.

d. The property is suitable for a septic system.

e. The dwelling is ultimately located on a new zoning lot that is created via a State Plat Act exception.

f. Compliance with Section 18.2.1 B. and all other applicable codes and ordinances.

2. Specifically for the AG District, an additional single-family dwelling (or an increase in density amounting to same) is permitted in a quarter-quarter section provided the dwelling is located on an entire vacant, not divided, half of a quarter-quarter section, the requirements of items 7.7.2 A.1., 7.7.2 A.2. and 7.7.2 A.3. above are met, all other applicable codes and ordinances are met, and a deed restriction is recorded, subject to County Administration's approval, which preserves an adjacent agriculturally zoned quarter-quarter section for solely agricultural use as defined within the zoning ordinance for a minimum of ninety nine (99) years. The quarter-quarter section preserved shall be designated for agriculture use as shown on the future land use map of the 2030 Land Resource Management Plan or successor. The County Board may release subject deed restriction if the home approved via this regulation no longer exists, but not obligated to.

a. The subject one half of a quarter-quarter section improved with a single-family home may be reduced in lot area and/or lot frontage and remain conforming provided the lot area complies with septic regulations, lot frontage is no less than two-hundred fifty (250) feet, and all other applicable codes and ordinances are met.

3. Specifically for an A-1 District located within one and a half (1.5) miles of an incorporated municipality or within a half (0.5) mile of an unincorporated municipality's (hamlet's) growth area as shown on the future land use map of the 2030 Land Resource Management Plan or successor, an increased density of one (1) single-family dwelling (or a second single-family dwelling in a quarter-quarter section amounting to same) is permitted within an entire vacant, not divided, half of a quarter-quarter section provided the requirements of items 7.7.2 A.1., 7.7.2 A.2. and 7.7.2 A.3. above are met and all other applicable codes and ordinances are met.

a. The subject one half of a quarter-quarter section improved with a single-family home may be reduced in lot area and/or lot frontage and remain conforming provided the lot was created after June 24, 1982 and complies with septic regulations, lot frontage is no less than two hundred fifty (250) feet and all other applicable codes and ordinances are met.

C. One (1) single-family dwelling per vacant lot of record or parcel of land in an AG, A-1 or A-2 District duly recorded in the Winnebago County Recorder's office, as of, and unaltered since June 24, 1982, is permitted. Such dwelling must meet the following:

1. The lot of record or parcel of land on which the dwelling will be constructed has at least thirty (30) feet of lot frontage on a public road or private road created by a recorded plat of subdivision.

2. The dwelling must be located at least one thousand three hundred twenty (1,320) feet from any feedlot or concentrated animal feeding operation of fifty (50) animal units or greater.

3. Compliance with Section 18.2.1 B.

(1) Lot or parcel alterations to a lot or parcel addressed in 7.7.2 C. for a lot or parcel improved with a single-family residence may occur in accordance with the following:

a. Existing lots of record or parcels of land duly recorded in the Winnebago County Recorder's office, as of, and unaltered since June 24, 1982, with lot frontage of less than two hundred fifty (250) feet which are improved with a single-family residence may be reduced in lot area and remain conforming provided the lot was created after June 24, 1982, and complies with septic regulations, lot frontage is no less than what existed on June 24, 1982, and all other applicable codes and ordinances are met.

b. Existing lots of record or parcels of land duly recorded in the Winnebago County Recorder's office, as of, and unaltered since June 24, 1982, with lot frontage of more than two hundred fifty (250) feet which are improved with a single-family residence may be reduced in lot area and lot frontage and remain conforming provided the lot was created after June 24, 1982, and complies with septic regulations, lot frontage is no less than two hundred fifty (250) feet and all other applicable codes and ordinances are met.

c. Lots or parcels addressed in this section improved with a single-family residence may be increased in size after June 24, 1982, without the concern of being rendered out of zoning compliance.

D. In accordance with 7.6.1 Use Table, Table 7.1, a single-family dwelling on a vacant parcel of land that does not consist of an entire half of a quarter-quarter section as required in 7.7.2 B.2. or 7.7.2 B.3. but complies with all other applicable codes and ordinances, including maximum density of two (2) single-family dwelling units or buildable zoning lots per quarter-quarter section with no more than one (1) single-family dwelling unit or buildable zoning lot in each half of a quarter-quarter section of land. Only buildable zoning lots, which may or may not be improved, that were enabled by a rezoning and are located within the subject area shall be excluded when determining if the maximum density listed herein is met.

E. Any lot improved with a lawfully established single-family home that predates zoning or in accordance with an agricultural district regulation that existed in a prior adopted zoning code and same is not herein within this Section may be reduced in lot area and/or lot frontage and remain conforming provided the lot area complies with septic regulations, lot frontage is no less than two hundred fifty (250) feet, and all other applicable codes and ordinances are met.

Attestation of No Double Counting and No Net Harm

CITY FOREST CREDITS

Kenney and Clay Woods Additions to the Lind-McGeachie Preserve Preservation Project
Attestation of No Double Counting of Credits & No Net Harm

I am the Executive Director of the Natural Land Institute and make this attestation regarding the no double counting of credits and no net harm from this tree preservation project, Kenney and Clay Woods Additions to the Lind-McGeachie Preserve Preservation 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

The Natural Land Institute 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

The Natural Land Institute 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. The Natural Land Institute checked the location of the Project Area against the Registry-provided geospatial database, which contains geospatial data on the project areas of all registered urban forest carbon preservation projects to date. Project Operator has determined that there is no overlap of Project Area or Project Trees with any registered urban forest carbon preservation project.

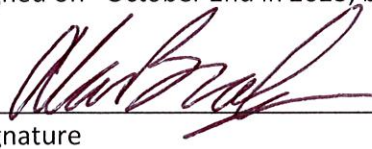
4. No Net Harm

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 October 2nd in 2023, by Alan Branhagen, Executive Director, for the Natural Land Institute



Signature

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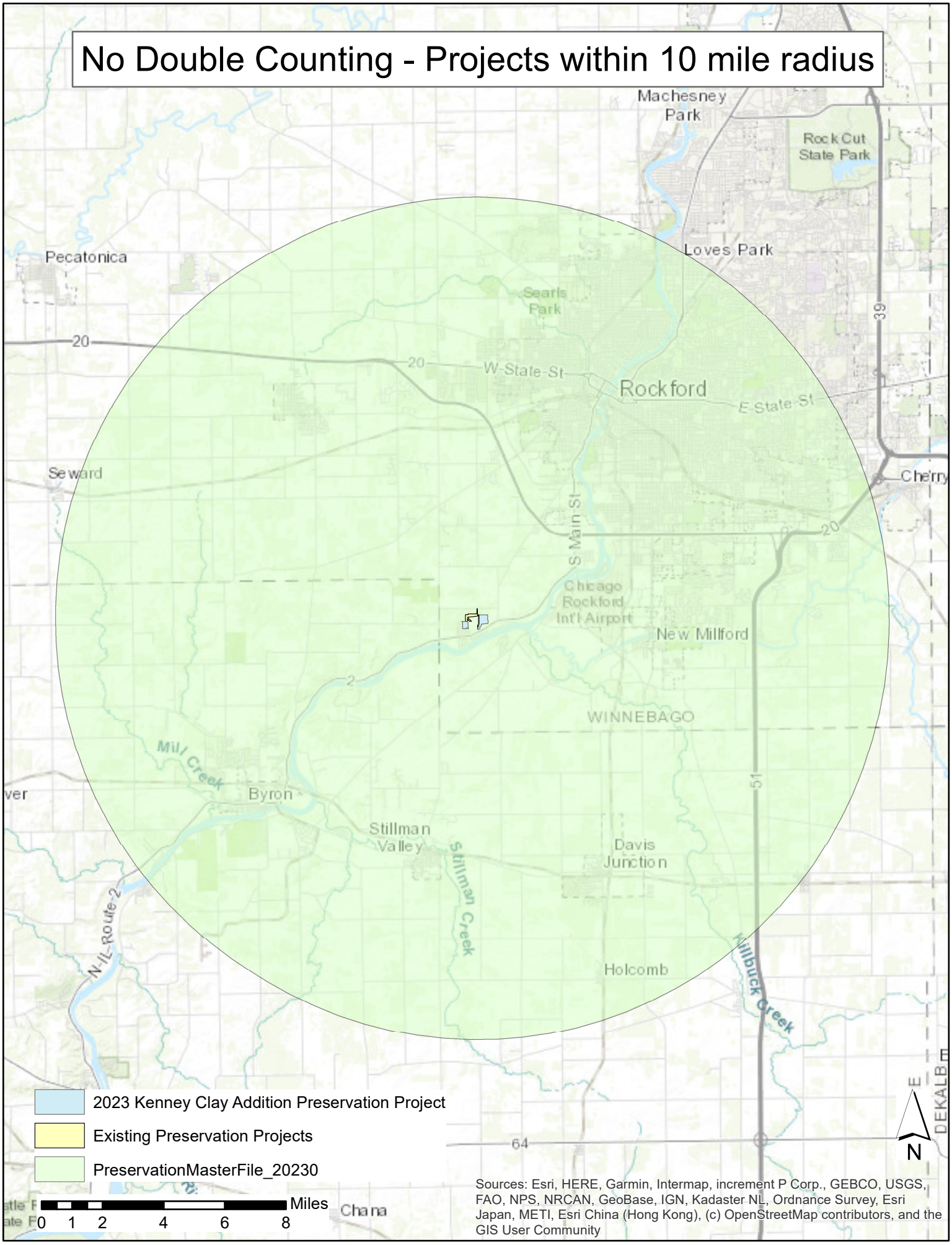
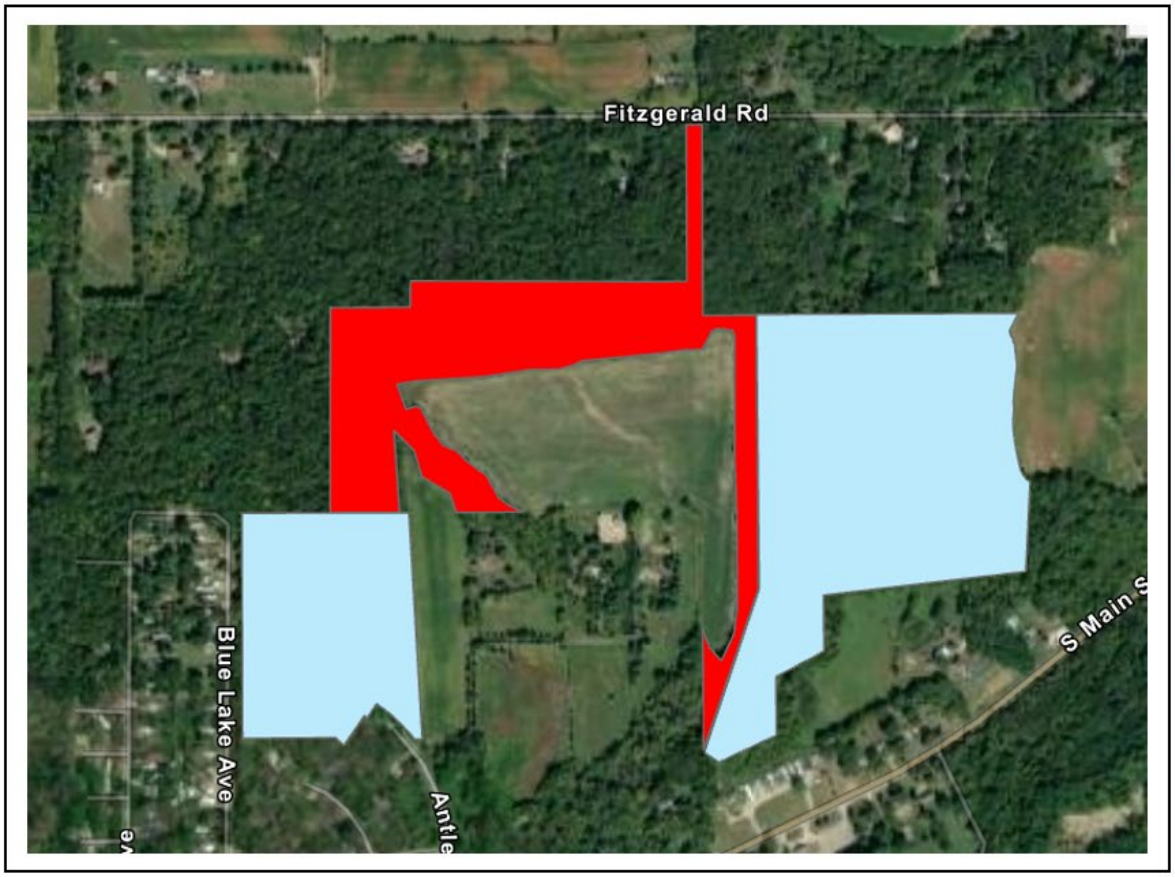
Phone


No Double Counting - Projects within 10 mile radius
Machesney Park
Rock Cut State Park
Pecatonica
Loves Park
Searls Park
20
W State St
Rockford
E State St
39
Seward
Cherry
S Main St
Chicago Rockford Int'l Airport
New Millford
WINNEBAGO
Mill Creek
Byron
Stillman Valley
Stillman Creek
Davis Junction
51
N-IL-Route-2
Holcomb
Killbuck Creek
DEKALB
64
2023 Kenney Clay Addition Preservation Project
Existing Preservation Projects
PreservationMasterFile_20230
Miles
0 1 2 4 6 8
Chana
N
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

No Double Counting Map – Fitzgerald Road and Kenney Clay Projects



Prior Project:
Fitzgerald Road Project (036)

Current Project:
Kenney and Clay Woods Additions (045)

Attestation of Additionality

Kenney and Clay Woods Additions to the Lind-McGeachie Preserve Preservation Project
Attestation of Additionality

I am the Executive Director of the Natural Land Institute and make this attestation regarding additionality from this tree preservation project, Kenney and Clay Woods Additions to the Lind-McGeachie Preserve Preservation Project.

- Project Description
  - The Project that is the subject of this attestation is described more fully in the Application and the 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
- The Natural Land Institute 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 the 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. The project also had to apply a discount to credited carbon for potential displaced development due to the project.
- Project Implementation Agreement for Project Duration
  - The Natural Land Institute signed a Project Implementation Agreement with City Forest Credits for 40 years.

Signed on October 25 in 2023, by Alan Branhagen, Executive Director, for the Natural Land Institute.

Signature

ALAN BRANHAGEN

Printed Name

815-964-66666

Phone

abranhagen@naturalland.org

Email

_____abranhagen@naturalland.org_____
Email

Carbon Quantification Tool

City Forest Credits - Preservation Protocol Carbon Quantification Calculator

Project Operator	Natural Land Institute	1036.94	146.02	0.140818177
Project Name	Clay Woods and Kenney Addition	18.69		
Project Location	Lind-McGeachie Preserve			
Date	45 Plots			

Carbon Quantification Summary		**Protocol Section**	**Supplemental information/notes**
47.67	Total Project Area Acres		include project area for all parcels enrolled in carbon project
18.69	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
	Biomass tCO2e/ac	11.1.B	
3,267	Accounting Stock, tCO2e	11.1.B	
90%	Fraction at risk of tree removal	11.2	Based on zoning - see 11.2 in preservation protocol
2,940	Avoided Biomass Emissions, tCO2e	11.2	
	Avoided impervious surface, percent	11.4	Based on zoning - see 11.4 in preservation protocol
22	Avoided impervious surface, acres	11.4	
2,698	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
538	Displaced Biomass Emissions, tCO2e		
817	Displaced Soil Emissions		Assumes that redevelopment causes increase in impervious surface on redeveloped parcels
2,402	Credits from Avoided Biomass Emissions, tCO2e		
1,880	Credits from Avoided Soil Emissions, tCO2e		
4,282	Total Credits attributed to the project, tCO2e		
428	Registry Reversal Pool Account (10%), tCO2e		
3,854	**Total credits issued to the project, tCO2e**		
81	**Total credits issued to the project, tCO2e/acre**		

Year	**Credits Issued This Year**	**Cumulative Credits Issued**
1	3,854	3,854
2	-	3,854
3	-	3,854
4	-	3,854
5	-	3,854

City Forest Credits - Preservation Protocol Carbon Quantification Calculator

Project Operator	Natural Land Institute
Project Name	Clay Woods and Kenney Addition
Project Location	Lind-McGeachie Preserve
Date	45 Plots

Carbon Quantification Summary		**Protocol Section**	**Supplemental information/notes**
37.47	Total Project Area Acres		include project area for all parcels enrolled in carbon project
18.69	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
68.53	Biomass tCO2e/ac	11.1.B	
2,568	Accounting Stock, tCO2e	11.1.B	
90%	Fraction at risk of tree removal	11.2	Based on zoning - see 11.2 in preservation protocol
2,311	Avoided Biomass Emissions, tCO2e	11.2	
60%	Avoided impervious surface, percent	11.4	Based on zoning - see 11.4 in preservation protocol
22	Avoided impervious surface, acres	11.4	
2,698	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
423	Displaced Biomass Emissions, tCO2e		
817	Displaced Soil Emissions		Assumes that redevelopment causes increase in impervious surface on redeveloped parcels
1,888	Credits from Avoided Biomass Emissions, tCO2e		
1,880	Credits from Avoided Soil Emissions, tCO2e		
3,768	Total Credits attributed to the project, tCO2e		
377	Registry Reversal Pool Account (10%), tCO2e		
3,391.60	**Total credits issued to the project, tCO2e**		
91	**Total credits issued to the project, tCO2e/acre**		

Year	Credits Issued This Year	Cumulative Credits Issued
1	3,392	3,392
2	-	3,392
3	-	3,392
4	-	3,392
5	-	3,392

City Forest Credits - Preservation Protocol Carbon Quantification Calculator

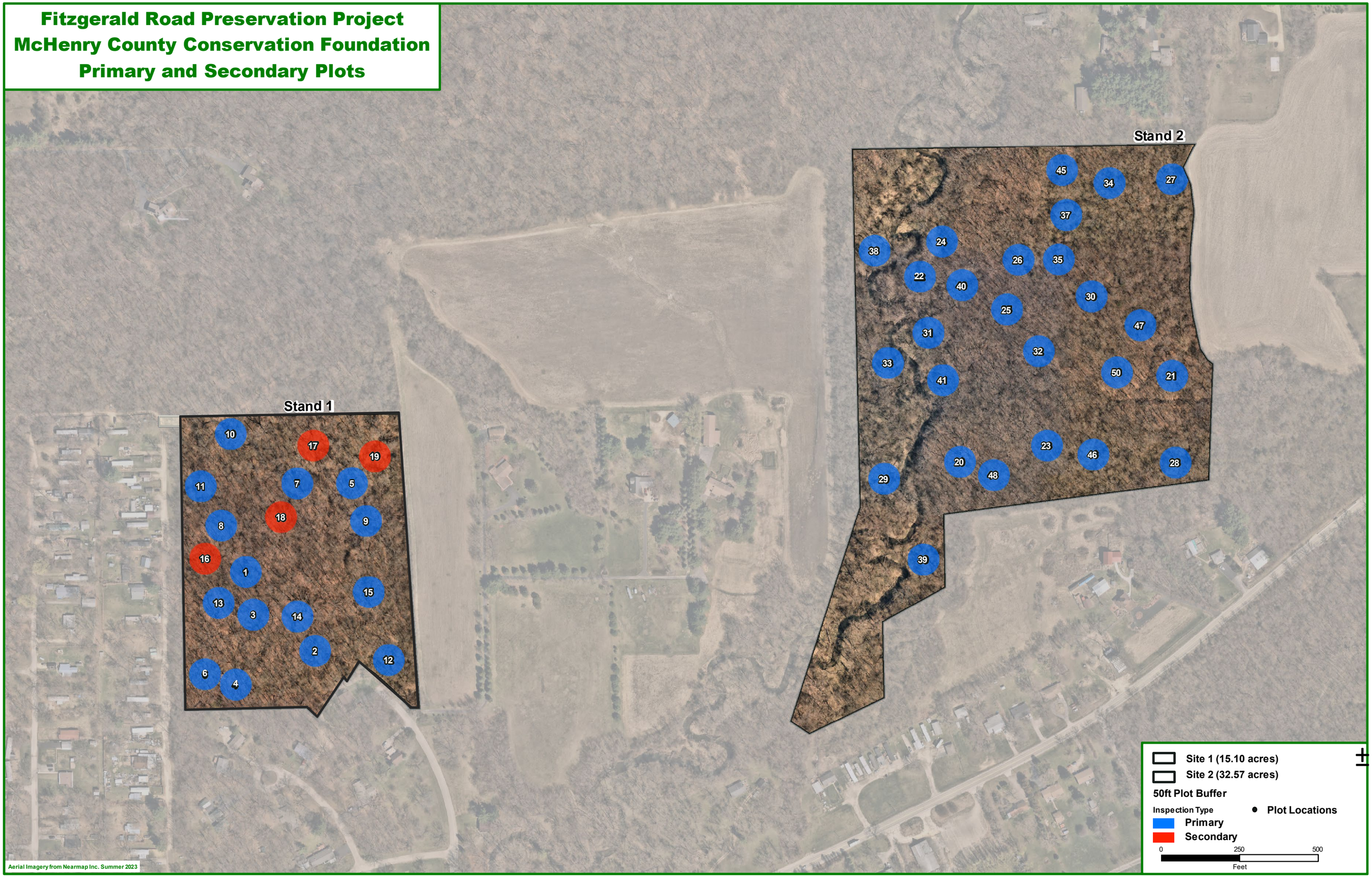
Project Operator	Natural Land Institute
Project Name	Clay Woods and Kenney Addition
Project Location	Lind-McGeachie Preserve
Date	45 Plots

Carbon Quantification Summary		**Protocol Section**	**Supplemental information/notes**
10.2	Total Project Area Acres		include project area for all parcels enrolled in carbon project
18.69	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
68.53	Biomass tCO2e/ac	11.1.B	
699	Accounting Stock, tCO2e	11.1.B	
90%	Fraction at risk of tree removal	11.2	Based on zoning - see 11.2 in preservation protocol
629	Avoided Biomass Emissions, tCO2e	11.2	
0%	Avoided impervious surface, percent	11.4	Based on zoning - see 11.4 in preservation protocol
-	Avoided impervious surface, acres	11.4	
-	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
115	Displaced Biomass Emissions, tCO2e		
-	Displaced Soil Emissions		Assumes that redevelopment causes increase in impervious surface on redeveloped parcels
514	Credits from Avoided Biomass Emissions, tCO2e		
-	Credits from Avoided Soil Emissions, tCO2e		
514	Total Credits attributed to the project, tCO2e		
51	Registry Reversal Pool Account (10%), tCO2e		
462.56	**Total credits issued to the project, tCO2e**		
45	**Total credits issued to the project, tCO2e/acre**		

Year	Credits Issued This Year	Cumulative Credits Issued
1	463	463
2	-	463
3	-	463
4	-	463
5	-	463

Tree Inventory & Plot Location Map

Fitzgerald Road Preservation Project
McHenry County Conservation Foundation
Primary and Secondary Plots



Plot	ID		Survey Date	Species	Land Use	DBH 1 (in)	DBH 1: Height (ft)	DBH 1: Measured?	DBH 2 (in)	DBH 2: Height (ft)	DBH 2: Measured?	DBH 3 (in)	DBH 3: Height (ft)	DBH 3: Measured?	Crown: Condition	
	1	1	9/15/2023	Shagbark hickory (Carya ovata)	Forest	9.8	4.5	TRUE	10.5	4.5	TRUE			TRUE	90% - 95%	
	1	2	9/15/2023	Northern hackberry (Celtis occidentalis)	Forest	10.8	4.5	TRUE	18.4	4.5	TRUE			TRUE	90% - 95%	
	1	3	9/15/2023	American elm (Ulmus americana)	Forest	6.2	4.5	TRUE			TRUE			TRUE	75% - 80%	
	1	4	9/15/2023	Shagbark hickory (Carya ovata)	Forest	5.5	4.5	TRUE			TRUE			TRUE	90% - 95%	
	1	5	9/15/2023	Black cherry (Prunus serotina)	Forest	8.2	4.5	TRUE			TRUE			TRUE	90% - 95%	
	1	6	9/15/2023	Green ash (Fraxinus pennsylvanica)	Forest	21.9	4.5	TRUE			TRUE			TRUE		0%
	1	7	9/15/2023	American elm (Ulmus americana)	Forest	14.8	4.5	TRUE			TRUE			TRUE	80% - 85%	
	1	8	9/15/2023	Shagbark hickory (Carya ovata)	Forest	12.9	4.5	TRUE			TRUE			TRUE	90% - 95%	
	1	9	9/15/2023	Shagbark hickory (Carya ovata)	Forest	9.3	4.5	TRUE			TRUE			TRUE	90% - 95%	
	2	1	9/15/2023	Shagbark hickory (Carya ovata)	Forest	7.6	4.5	TRUE			TRUE			TRUE	85% - 90%	
	2	2	9/15/2023	Shagbark hickory (Carya ovata)	Forest	10.2	4.5	TRUE			TRUE			TRUE	85% - 90%	
	2	3	9/15/2023	Shagbark hickory (Carya ovata)	Forest	7.8	4.5	TRUE			TRUE			TRUE	90% - 95%	
	2	4	9/15/2023	Shagbark hickory (Carya ovata)	Forest	12.8	4.5	TRUE			TRUE			TRUE	90% - 95%	
	2	5	9/15/2023	Northern red oak (Quercus rubra)	Forest	22.8	4.5	TRUE			TRUE			TRUE	90% - 95%	
	3	1	9/15/2023	Shagbark hickory (Carya ovata)	Forest	14.3	4.5	TRUE			TRUE			TRUE	70% - 75%	
	3	2	9/15/2023	Black cherry (Prunus serotina)	Forest	10	4.5	TRUE			TRUE			TRUE	60% - 65%	
	3	3	9/15/2023	Shagbark hickory (Carya ovata)	Forest	12.4	4.5	TRUE			TRUE			TRUE	75% - 80%	
	3	4	9/15/2023	Northern red oak (Quercus rubra)	Forest	15.6	4.5	TRUE			TRUE			TRUE	75% - 80%	
	3	5	9/15/2023	American elm (Ulmus americana)	Forest	5.8	4.5	TRUE			TRUE			TRUE	85% - 90%	
	3	6	9/15/2023	Shagbark hickory (Carya ovata)	Forest	9.5	4.5	TRUE			TRUE			TRUE	95% - 99%	
	3	7	9/15/2023	Shagbark hickory (Carya ovata)	Forest	6	4.5	TRUE			TRUE			TRUE	90% - 95%	
	3	8	9/15/2023	Shagbark hickory (Carya ovata)	Forest	8.2	4.5	TRUE			TRUE			TRUE	90% - 95%	
	4	1	9/15/2023	Shagbark hickory (Carya ovata)	Forest	11.5	4.5	TRUE			TRUE			TRUE	90% - 95%	
	4	2	9/15/2023	Shagbark hickory (Carya ovata)	Forest	7.1	4.5	TRUE			TRUE			TRUE	95% - 99%	
	4	3	9/15/2023	Shagbark hickory (Carya ovata)	Forest	11.8	4.5	TRUE			TRUE			TRUE	95% - 99%	
	4	4	9/15/2023	Shagbark hickory (Carya ovata)	Forest	9.3	4.5	TRUE			TRUE			TRUE	90% - 95%	
	4	5	9/15/2023	Shagbark hickory (Carya ovata)	Forest	10.5	4.5	TRUE			TRUE			TRUE	95% - 99%	
	4	6	9/15/2023	Northern red oak (Quercus rubra)	Forest	10.3	4.5	TRUE			TRUE			TRUE	75% - 80%	
	4	7	9/15/2023	Shagbark hickory (Carya ovata)	Forest	9	4.5	TRUE			TRUE			TRUE	75% - 80%	
	4	8	9/15/2023	Northern red oak (Quercus rubra)	Forest	18.9	4.5	TRUE			TRUE			TRUE	85% - 90%	
	5	1	9/15/2023	Northern red oak (Quercus rubra)	Forest	13.6	4.5	TRUE			TRUE			TRUE	45% - 50%	
	5	2	9/15/2023	Shagbark hickory (Carya ovata)	Forest	13.1	4.5	TRUE	13.1	4.5	TRUE			TRUE	95% - 99%	
	5	3	9/15/2023	American elm (Ulmus americana)	Forest	20.6	4.5	TRUE			TRUE			TRUE	80% - 85%	
	5	4	9/15/2023	Eastern cottonwood (Populus deltoides)	Forest	16.8	4.5	TRUE			TRUE			TRUE	85% - 90%	
	5	5	9/15/2023	Eastern cottonwood (Populus deltoides)	Forest	16.5	4.5	TRUE			TRUE			TRUE	85% - 90%	
	5	6	9/15/2023	Eastern cottonwood (Populus deltoides)	Forest	16.7	4.5	TRUE			TRUE			TRUE	85% - 90%	
	5	7	9/15/2023	Northern hackberry (Celtis occidentalis)	Forest	15.5	4.5	TRUE			TRUE			TRUE	90% - 95%	
	5	8	9/15/2023	Eastern cottonwood (Populus deltoides)	Forest	15.5	4.5	TRUE			TRUE			TRUE	85% - 90%	
	5	9	9/15/2023	Black cherry (Prunus serotina)	Forest	15.6	4.5	TRUE			TRUE			TRUE	75% - 80%	
	5	10	9/15/2023	Eastern cottonwood (Populus deltoides)	Forest	14.8	4.5	TRUE			TRUE			TRUE	85% - 90%	
	6	1	9/15/2023	Northern hackberry (Celtis occidentalis)	Forest	18.9	4.5	TRUE			TRUE			TRUE	95% - 99%	
	6	2	9/15/2023	Shagbark hickory (Carya ovata)	Forest	7.9	4.5	TRUE			TRUE			TRUE	90% - 95%	
	6	3	9/15/2023	Shagbark hickory (Carya ovata)	Forest	14.8	4.5	TRUE	5.6	4.5	TRUE	5.5	4.5	TRUE	80% - 85%	
	6	4	9/15/2023	Shagbark hickory (Carya ovata)	Forest	5.5	4.5	TRUE			TRUE			TRUE	85% - 90%	
	6	5	9/15/2023	Northern red oak (Quercus rubra)	Forest	18.9	4.5	TRUE			TRUE			TRUE	85% - 90%	
	7	1	9/15/2023	Shagbark hickory (Carya ovata)	Forest	5.5	4.5	TRUE			TRUE			TRUE	85% - 90%	
	7	2	9/15/2023	Shagbark hickory (Carya ovata)	Forest	8.6	4.5	TRUE			TRUE			TRUE	85% - 90%	
	7	3	9/15/2023	Shagbark hickory (Carya ovata)	Forest	8.2	4.5	TRUE			TRUE			TRUE	85% - 90%	
	7	4	9/15/2023	Shagbark hickory (Carya ovata)	Forest	13.8	4.5	TRUE			TRUE			TRUE	85% - 90%	
	7	5	9/15/2023	Northern hackberry (Celtis occidentalis)	Forest	15.5	4.5	TRUE			TRUE			TRUE	85% - 90%	
	8	1	9/15/2023	Black cherry (Prunus serotina)	Forest	16.3	4.5	TRUE			TRUE			TRUE	75% - 80%	
	8	2	9/15/2023	Northern hackberry (Celtis occidentalis)	Forest	12.9	4.5	TRUE	8.9	4.5	TRUE			TRUE	85% - 90%	
	8	3	9/15/2023	American elm (Ulmus americana)	Forest	8.6	4.5	TRUE			TRUE			TRUE	90% - 95%	
	8	4	9/15/2023	American elm (Ulmus americana)	Forest	8.5	4.5	TRUE			TRUE			TRUE	90% - 95%	
	8	5	9/15/2023	Shagbark hickory (Carya ovata)	Forest	8.6	4.5	TRUE			TRUE			TRUE	90% - 95%	
	8	6	9/15/2023	American elm (Ulmus americana)	Forest	7.8	4.5	TRUE			TRUE			TRUE	85% - 90%	
	8	7	9/15/2023	Shagbark hickory (Carya ovata)	Forest	12.4	4.5	TRUE			TRUE			TRUE	80% - 85%	
	9	1	9/15/2023	American elm (Ulmus americana)	Forest	13.5	4.5	TRUE			TRUE			TRUE		0%
	9	2	9/15/2023	Northern hackberry (Celtis occidentalis)	Forest	8.6	4.5	TRUE			TRUE			TRUE	85% - 90%	
	9	3	9/15/2023	Northern hackberry (Celtis occidentalis)	Forest	14.2	4.5	TRUE			TRUE			TRUE	85% - 90%	
	10	1	9/22/2023	Shagbark hickory (Carya ovata)	Forest	15.8	4.5	TRUE			TRUE			TRUE	85% - 90%	
	10	2	9/22/2023	Shagbark hickory (Carya ovata)	Forest	11.3	4.5	TRUE			TRUE			TRUE	85% - 90%	
	10	3	9/22/2023	Shagbark hickory (Carya ovata)	Forest	12.6	4.4	TRUE			TRUE			TRUE	90% - 95%	
	10	4	9/22/2023	Northern red oak (Quercus rubra)	Forest	21.2	4.5	TRUE			TRUE			TRUE	90% - 95%	
	10	5	9/22/2023	American elm (Ulmus americana)	Forest	8.4	4.5	TRUE			TRUE			TRUE	80% - 85%	
	10	6	9/22/2023	American elm (Ulmus americana)	Forest	7.8	4.5	TRUE			TRUE			TRUE	80% - 85%	
	10	7	9/22/2023	American elm (Ulmus americana)	Forest	8.7	4.5	TRUE			TRUE			TRUE	75% - 80%	
	10	8	9/22/2023	American elm (Ulmus americana)	Forest	7.8	4.5	TRUE			TRUE			TRUE	75% - 80%	
	11	1	9/22/2023	Northern red oak (Quercus rubra)	Forest	16.4	4.5	TRUE			TRUE			TRUE	90% - 95%	
	11	2	9/22/2023	Northern hackberry (Celtis occidentalis)	Forest	14.8	4.5	TRUE			TRUE			TRUE	90% - 95%	
	11	3	9/22/2023	Northern hackberry (Celtis occidentalis)	Forest	7.6	4.5	TRUE			TRUE			TRUE	90% - 95%	
	11	4	9/22/2023	American elm (Ulmus americana)	Forest	7.8	4.5	TRUE			TRUE			TRUE	85% - 90%	
	11	5	9/22/2023	American elm (Ulmus americana)	Forest	7.4	4.5	TRUE			TRUE			TRUE	90% - 95%	
	11	6	9/22/2023	American elm (Ulmus americana)	Forest	6.8	4.5	TRUE			TRUE			TRUE		0%
	11	7	9/22/2023	Black cherry (Prunus serotina)	Forest	16.5	4.5	TRUE			TRUE			TRUE	75% - 80%	
	12	1	9/22/2023	Black cherry (Prunus serotina)	Forest	12.3	4.5	TRUE			TRUE			TRUE	80% - 85%	
	12	2	9/22/2023	Black cherry (Prunus serotina)	Forest	12.4	4.5	TRUE			TRUE			TRUE	85% - 90%	
	12	3	9/22/2023	Northern red oak (Quercus rubra)	Forest	13.8	4.5	TRUE			TRUE			TRUE	85% - 90%	
	12	4	9/22/2023	American elm (Ulmus americana)	Forest	6.4	4.5	TRUE			TRUE			TRUE	85% - 90%	
	12	5	9/22/2023	American elm (Ulmus americana)	Forest	7.1	4.5	TRUE			TRUE			TRUE	80% - 85%	
	12	6	9/22/2023	American elm (Ulmus americana)	Forest	6.9	4.5	TRUE			TRUE			TRUE	95% - 99%	
	13	1	9/22/2023	Shagbark hickory (Carya ovata)	Forest	18.5	4.5	TRUE			TRUE			TRUE	85% - 90%	
	13	2	9/22/2023	Shagbark hickory (Carya ovata)	Forest	18.2	4.5	TRUE			TRUE			TRUE	85% - 90%	
	13	3	9/22/2023	Shagbark hickory (Carya ovata)	Forest	18.3	4.5	TRUE			TRUE			TRUE	90% - 95%	
	13	4	9/22/2023	Shagbark hickory (Carya ovata)	Forest	18.3	4.5	TRUE			TRUE			TRUE	90% - 95%	
	13	5	9/22/2023	Shagbark hickory (Carya ovata)	Forest	17.4	4.5	TRUE			TRUE			TRUE	85% - 90%	
	13	6	9/22/2023	American elm (Ulmus americana)	Forest	7.3	4.5	TRUE			TRUE			TRUE	80% - 85%	
	13	7	9/22/2023	American elm (Ulmus americana)	Forest	7.1	4.5	TRUE			TRUE			TRUE	75% - 80%	
	13	8	9/22/2023	American elm (Ulmus americana)	Forest	7.5	4.5	TRUE			TRUE			TRUE	80% - 85%	
	14	1	9/22/2023	American elm (Ulmus americana)	Forest	8.2	4.5	TRUE			TRUE			TRUE	85% - 90%	
	14	2	9/22/2023	American elm (Ulmus americana)	Forest	8.8	4.5	TRUE			TRUE			TRUE	85% - 90%	
	14	3	9/22/2023	American elm (Ulmus americana)	Forest	7	4.5	TRUE			TRUE			TRUE	80% - 85%	
	14	4	9/22/2023	American elm (Ulmus americana)	Forest	7.2	4.5	TRUE			TRUE			TRUE	65% - 70%	
	14	5	9/22/2023	American elm (Ulmus americana)	Forest	7.8	4.5	TRUE			TRUE			TRUE	95% - 99%	
	14	6	9/22/2023	American elm (Ulmus americana)	Forest	7.6	4.5	TRUE			TRUE			TRUE	85% - 90%	
	14	7	9/22/2023	American elm (Ulmus americana)	Forest	8	4.5	TRUE			TRUE			TRUE	70% - 75%	
	14	8	9/22/2023	American elm (Ulmus americana)	Forest	8.2	4.5	TRUE			TRUE			TRUE	80% - 85%	
	15	1	9/22/2023	Black cherry (Prunus serotina)	Forest	15.6	4.5	TRUE			TRUE			TRUE	85% - 90%	
	15	2	9/22/2023	Shagbark hickory (Carya ovata)	Forest	12.4	4.5	TRUE			TRUE			TRUE	90% - 95%	
	15	3	9/22/2023	Shagbark hickory (Carya ovata)	Forest	13.2	4.5	TRUE			TRUE			TRUE	75% - 80%	
	15	4	9/22/2023	Shagbark hickory (Carya ovata)	Forest	6.8	4.5	TRUE			TRUE			TRUE	90% - 95%	
	15	5	9/22/2023	Black cherry (Prunus serotina)	Forest	6.9	4.5	TRUE			TRUE			TRUE	75% - 80%	
	16	1	10/9/2023	Shagbark hickory (Carya ovata)	Forest	10.2	4.5	TRUE			TRUE			TRUE	85% - 90%	
	16	2	10/9/2023	Shagbark hickory (Carya ovata)	Forest	8.1	4.5	TRUE			TRUE			TRUE	70% - 75%	
	16	3	10/9/2023	Shagbark hickory (Carya ovata)	Forest	5.6	4.5	TRUE			TRUE			TRUE	80% - 85%	
	16	4	10/9/2023	Black cherry (Prunus serotina)	Forest	9.6	4.5	TRUE			TRUE			TRUE	90% - 95%	
	16	5	10/9/2023	Black cherry (Prunus serotina)	Forest	5.8	4.5	TRUE			TRUE			TRUE	85% - 90%	
	17	1	10/9/2023	American elm (Ulmus americana)	Forest	12.3	4.5	TRUE			TRUE			TRUE		0%

17	2	10/9/2023	American elm (Ulmus americana)	Forest	7.2	4.5	TRUE			TRUE			TRUE			TRUE			0%
17	3	10/9/2023	American elm (Ulmus americana)	Forest	9.3	4.5	TRUE			TRUE			TRUE			TRUE			0%
17	4	10/9/2023	Green ash (Fraxinus pennsylvanica)	Forest	15	4.5	TRUE			TRUE			TRUE			TRUE	70% - 75%		
18	1	10/9/2023	Green ash (Fraxinus pennsylvanica)	Forest	9.9	4.5	TRUE			TRUE			TRUE			TRUE	50% - 55%		
18	2	10/9/2023	Green ash (Fraxinus pennsylvanica)	Forest	10.2	4.5	TRUE			TRUE			TRUE			TRUE	65% - 70%		
18	3	10/9/2023	Green ash (Fraxinus pennsylvanica)	Forest	8.9	4.5	TRUE			TRUE			TRUE			TRUE	60% - 65%		
18	4	10/9/2023	Shagbark hickory (Carya ovata)	Forest	14.2	4.5	TRUE			TRUE			TRUE			TRUE	75% - 80%		
18	5	10/9/2023	Shagbark hickory (Carya ovata)	Forest	14	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
18	6	10/9/2023	Shagbark hickory (Carya ovata)	Forest	12.4	4.5	TRUE			TRUE			TRUE			TRUE	85% - 90%		
19	1	10/9/2023	Boxelder (Acer negundo)	Forest	8.5	4.5	TRUE			TRUE			TRUE			TRUE	85% - 90%		
19	2	10/9/2023	Shagbark hickory (Carya ovata)	Forest	11.5	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
19	3	10/9/2023	Northern pin oak (Quercus ellipsoidalis)	Forest	28.7	4.5	TRUE			TRUE			TRUE			TRUE	75% - 80%		
19	4	10/9/2023	American elm (Ulmus americana)	Forest	8.9	4.5	TRUE			TRUE			TRUE			TRUE	75% - 80%		
20	1	9/13/2023	Bur oak (Quercus macrocarpa)	Forest	32.1	4.5	TRUE			TRUE			TRUE			TRUE	70% - 75%		
20	2	9/13/2023	Black cherry (Prunus serotina)	Forest	5.8	4.5	TRUE			TRUE			TRUE			TRUE	60% - 65%		
20	3	9/13/2023	Bur oak (Quercus macrocarpa)	Forest	29.9	4.5	TRUE			TRUE			TRUE			TRUE	70% - 75%		
20	4	9/13/2023	White oak (Quercus alba)	Forest	33.8	4.5	TRUE			TRUE			TRUE			TRUE	70% - 75%		
20	5	9/13/2023	American basswood (Tilia americana)	Forest	5.2	4.5	TRUE			TRUE			TRUE			TRUE	90% - 95%		
20	6	9/13/2023	White oak (Quercus alba)	Forest	28.4	4.5	TRUE			TRUE			TRUE			TRUE	65% - 70%		
20	7	9/13/2023	White oak (Quercus alba)	Forest	30.7	4.5	TRUE			TRUE			TRUE			TRUE	65% - 70%		
20	8	9/13/2023	Silver maple (Acer saccharinum)	Forest	6.5	4.5	TRUE			TRUE			TRUE			TRUE	55% - 60%		
20	9	9/13/2023	American basswood (Tilia americana)	Forest	7.5	4.5	TRUE			TRUE			TRUE			TRUE	75% - 80%		
20	10	9/13/2023	Black cherry (Prunus serotina)	Forest	6.5	4.5	TRUE			TRUE			TRUE			TRUE	60% - 65%		
20	11	9/13/2023	American basswood (Tilia americana)	Forest	7	4.5	FALSE			TRUE			TRUE			TRUE	90% - 95%		
21	1	9/13/2023	Northern red oak (Quercus rubra)	Forest	30.8	4.5	TRUE			TRUE			TRUE			TRUE			0%
21	2	9/13/2023	Boxelder (Acer negundo)	Forest	6.5	4.5	TRUE			TRUE			TRUE			TRUE			0%
21	3	9/13/2023	Northern hackberry (Celtis occidentalis)	Forest	11.8	4.5	TRUE			TRUE			TRUE			TRUE	70% - 75%		
21	4	9/13/2023	Boxelder (Acer negundo)	Forest	6.7	4.5	TRUE			TRUE			TRUE			TRUE	70% - 75%		
21	5	9/13/2023	American elm (Ulmus americana)	Forest	7.4	4.5	TRUE			TRUE			TRUE			TRUE	70% - 75%		
21	6	9/13/2023	Black cherry (Prunus serotina)	Forest	6.8		TRUE			TRUE			TRUE			TRUE			0%
21	7	9/13/2023	Black cherry (Prunus serotina)	Forest	9.8	4.5	TRUE			TRUE			TRUE			TRUE			0%
21	8	9/13/2023	Black cherry (Prunus serotina)	Forest	11.3	4.5	TRUE			TRUE			TRUE			TRUE	50% - 55%		
21	9	9/13/2023	American elm (Ulmus americana)	Forest	7.8	4.5	TRUE			TRUE			TRUE			TRUE	75% - 80%		
21	10	9/13/2023	Shagbark hickory (Carya ovata)	Forest	5.7	4.5	TRUE			TRUE			TRUE			TRUE	90% - 95%		
21	11	9/13/2023	Northern red oak (Quercus rubra)	Forest	16.4	4.5	TRUE	7.3	4.5	TRUE			TRUE			TRUE	70% - 75%		
21	12	9/13/2023	Northern red oak (Quercus rubra)	Forest	20.9	4.5	TRUE			TRUE			TRUE			TRUE	65% - 70%		
21	13	9/13/2023	American elm (Ulmus americana)	Forest	11.3	4.5	TRUE			TRUE			TRUE			TRUE			0%
22	1	9/13/2023	Boxelder (Acer negundo)	Forest	9.3	4.5	TRUE			TRUE			TRUE			TRUE	30% - 35%		
22	2	9/13/2023	Silver maple (Acer saccharinum)	Forest	18	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
22	3	9/13/2023	Willow spp (Salix)	Forest	18.5	4.5	TRUE			TRUE			TRUE			TRUE	60% - 65%		
22	4	9/13/2023	Eastern cottonwood (Populus deltoides)	Forest	19.4		TRUE			TRUE			TRUE			TRUE	70% - 75%		
22	5	9/13/2023	American elm (Ulmus americana)	Forest	8.6	4.5	TRUE			TRUE			TRUE			TRUE	75% - 80%		
22	6	9/13/2023	American elm (Ulmus americana)	Forest	7.1	4.5	TRUE			TRUE			TRUE			TRUE	65% - 70%		
22	7	9/13/2023	Boxelder (Acer negundo)	Forest	7.1	4.5	TRUE			TRUE			TRUE			TRUE	65% - 70%		
22	8	9/13/2023	Boxelder (Acer negundo)	Forest	8.5	4.5	TRUE			TRUE			TRUE			TRUE			0%
23	1	9/13/2023	Shagbark hickory (Carya ovata)	Forest	11.6	4.5	TRUE			TRUE			TRUE			TRUE	75% - 80%		
23	2	9/13/2023	White oak (Quercus alba)	Forest	8.5	4.5	TRUE			TRUE			TRUE			TRUE	65% - 70%		
23	3	9/13/2023	Shagbark hickory (Carya ovata)	Forest	12.6	4.5	TRUE			TRUE			TRUE			TRUE	65% - 70%		
23	4	9/13/2023	American elm (Ulmus americana)	Forest	11.6	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
23	5	9/13/2023	Shagbark hickory (Carya ovata)	Forest	12.8	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
24	1	9/13/2023	Black cherry (Prunus serotina)	Forest	11.5	4.5	TRUE			TRUE			TRUE			TRUE	60% - 65%		
24	2	9/13/2023	Shagbark hickory (Carya ovata)	Forest	21.3	4.5	TRUE			TRUE			TRUE			TRUE	90% - 95%		
24	3	9/13/2023	White oak (Quercus alba)	Forest	6.3	4.5	TRUE			TRUE			TRUE			TRUE	70% - 75%		
24	4	9/13/2023	White mulberry (Morus alba)	Forest	11.5	4.5	TRUE			TRUE			TRUE			TRUE	75% - 80%		
24	5	9/13/2023	Northern hackberry (Celtis occidentalis)	Forest	5.2	4.5	TRUE			TRUE			TRUE			TRUE	85% - 90%		
24	6	9/13/2023	Black cherry (Prunus serotina)	Forest	5.8	4.5	TRUE			TRUE			TRUE			TRUE	65% - 70%		
25	1	9/13/2023	Black cherry (Prunus serotina)	Forest	7.1	4.5	TRUE			TRUE			TRUE			TRUE	60% - 65%		
25	2	9/13/2023	Shagbark hickory (Carya ovata)	Forest	17.2	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
25	3	9/13/2023	American elm (Ulmus americana)	Forest	5.9	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
25	4	9/13/2023	American elm (Ulmus americana)	Forest	5.5	4.5	TRUE			TRUE			TRUE			TRUE	75% - 80%		
25	5	9/13/2023	Shagbark hickory (Carya ovata)	Forest	17.9	4.5	TRUE			TRUE			TRUE			TRUE	85% - 90%		
25	6	9/13/2023	Black cherry (Prunus serotina)	Forest	9.9	4.5	TRUE			TRUE			TRUE			TRUE	65% - 70%		
25	7	9/13/2023	Black cherry (Prunus serotina)	Forest	7.8	4.5	TRUE			TRUE			TRUE			TRUE	65% - 70%		
25	8	9/13/2023	Black cherry (Prunus serotina)	Forest	5.9	4.5	TRUE			TRUE			TRUE			TRUE	70% - 75%		
25	9	9/13/2023	Northern red oak (Quercus rubra)	Forest	5.2	4.5	TRUE			TRUE			TRUE			TRUE	65% - 70%		
25	10	9/13/2023	Black cherry (Prunus serotina)	Forest	5.4	4.5	TRUE			TRUE			TRUE			TRUE	55% - 60%		
25	11	9/13/2023	Boxelder (Acer negundo)	Forest	5.4	4.5	TRUE			TRUE			TRUE			TRUE	70% - 75%		
25	12	9/13/2023	Black cherry (Prunus serotina)	Forest	8.6	4.5	TRUE			TRUE			TRUE			TRUE	60% - 65%		
25	13	9/13/2023	Black cherry (Prunus serotina)	Forest	5.2	4.5	TRUE			TRUE			TRUE			TRUE	60% - 65%		
26	1	9/13/2023	American elm (Ulmus americana)	Forest	6.9	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
26	2	9/13/2023	American elm (Ulmus americana)	Forest	12.8	4.5	TRUE			TRUE			TRUE			TRUE	75% - 80%		
26	3	9/13/2023	Northern hackberry (Celtis occidentalis)	Forest	10.4	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
26	4	9/13/2023	Northern hackberry (Celtis occidentalis)	Forest	9.5	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
26	5	9/13/2023	American elm (Ulmus americana)	Forest	7.4	4.5	TRUE			TRUE			TRUE			TRUE	85% - 90%		
26	6	9/13/2023	Northern hackberry (Celtis occidentalis)	Forest	8.2	4.5	TRUE			TRUE			TRUE			TRUE	85% - 90%		
26	7	9/13/2023	American elm (Ulmus americana)	Forest	5.7	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
26	8	9/13/2023	Northern hackberry (Celtis occidentalis)	Forest	11.9	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
26	9	9/13/2023	Black cherry (Prunus serotina)	Forest	5.7	4.5	TRUE			TRUE			TRUE			TRUE	75% - 80%		
26	10	9/13/2023	American elm (Ulmus americana)	Forest	5.2	4.5	TRUE			TRUE			TRUE			TRUE	60% - 65%		
26	11	9/13/2023	Boxelder (Acer negundo)	Forest	5.2	4.5	TRUE			TRUE			TRUE			TRUE	15% - 20%		
26	12	9/13/2023	White oak (Quercus alba)	Forest	17.1	4.5	TRUE			TRUE			TRUE			TRUE	70% - 75%		
26	13	9/13/2023	Shagbark hickory (Carya ovata)	Forest	17.4	4.5	TRUE			TRUE			TRUE			TRUE	90% - 95%		
26	14	9/13/2023	White oak (Quercus alba)	Forest	15.1	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
26	15	9/13/2023	White oak (Quercus alba)	Forest	18.4	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
26	16	9/13/2023	American elm (Ulmus americana)	Forest	5.3	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
26	17	9/13/2023	American elm (Ulmus americana)	Forest	9.3	4.5	TRUE			TRUE			TRUE			TRUE	75% - 80%		
26	18	9/13/2023	American elm (Ulmus americana)	Forest	5.1	4.5	TRUE			TRUE			TRUE			TRUE	70% - 75%		
27	1	9/13/2023	Pin oak (Quercus palustris)	Forest	13.5	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
27	2	9/13/2023	Black cherry (Prunus serotina)	Forest	6.6	4.5	TRUE			TRUE			TRUE			TRUE	65% - 70%		
27	3	9/13/2023	White mulberry (Morus alba)	Forest	6.5	4.5	TRUE			TRUE			TRUE			TRUE	65% - 70%		
27	4	9/13/2023	Northern red oak (Quercus rubra)	Forest	7.4	4.5	TRUE			TRUE			TRUE			TRUE	70% - 75%		
27	5	9/13/2023	American elm (Ulmus americana)	Forest	15.3	4.5	TRUE			TRUE			TRUE			TRUE	75% - 80%		
27	6	9/13/2023	Black cherry (Prunus serotina)	Forest	12.2	4.5	TRUE			TRUE			TRUE			TRUE	35% - 40%		
27	7	9/13/2023	Black cherry (Prunus serotina)	Forest	7.6	4.5	TRUE			TRUE			TRUE			TRUE			0%
27	8	9/13/2023	Boxelder (Acer negundo)	Forest	17.3	4.5	TRUE			TRUE			TRUE			TRUE			0%
27	9	9/13/2023	Black cherry (Prunus serotina)	Forest	7.8	4.5	TRUE			TRUE			TRUE			TRUE	55% - 60%		
27	10	9/13/2023	Northern hackberry (Celtis occidentalis)	Forest	11.2	4.5	TRUE			TRUE			TRUE			TRUE	80% - 85%		
27	11	9/13/2023	Black cherry (Prunus serotina)	Forest	11.2	4.5	TRUE			TRUE			TRUE			TRUE	75% - 80%		
27	12	9/13/2023	Black cherry (Prunus serotina)	Forest	5.8	4.5	TRUE			TRUE			TRUE			TRUE	55% - 60%		
27	13	9/13/2023	Black cherry (Prunus serotina)	Forest	6.7	4.5	TRUE			TRUE			TRUE			TRUE	55% - 60%		
27	14	9/13/2023	White mulberry (Morus alba)	Forest	6.9	4.5	TRUE	3.2	4.5	TRUE	4.6	4.5	TRUE			TRUE	60% - 65%		
27	15	9/13/2023	Black cherry (Prunus serotina)	Forest	11.4	4.5	TRUE			TRUE			TRUE			TRUE	55% - 60%		
27	16	9/13/2023	Black cherry (Prunus serotina)	Forest	14.4	4.5	TRUE			TRUE			TRUE			TRUE	70% - 75%		
28	1	9/13/2023	Shagbark hickory (Carya ovata)	Forest	7.9	4.5	TRUE			TRUE			TRUE			TRUE	60% - 65%		
28	2	9/13/2023	Northern hackberry (Celtis occidentalis)	Forest	13.5	4.5	TRUE			TRUE			TRUE			TRUE	65% - 70%		
28	3	9/13/2023	Northern hackberry (Celtis occidentalis)	Forest	10.8	4.5	TRUE			TRUE			TRUE			TRUE	90% - 95%		
28	4	9/13/2023	Northern hackberry (Celtis occidentalis)	Forest	9.5	4.5	TRUE			TRUE			TRUE			TRUE	90% - 95%		
28	5	9/13/2023	Black cherry (Prunus serotina)	Forest	6.5	4.5	TRUE			TRUE			TRUE			TRUE	70% - 75%		
28	6	9/13/2023	White mulberry (Morus alba)	Forest	4.2	4.5	TRUE	8	4.5	TRUE			TRUE			TRUE	70% - 75%		

28	7	9/13/2023	Northern hackberry (Celtis occidentalis)	Forest	7	4.5	TRUE			TRUE		TRUE	75% - 80%	
28	8	9/13/2023	Black walnut (Juglans nigra)	Forest	8.1	4.5	TRUE			TRUE		TRUE	85% - 90%	
28	9	9/13/2023	Shagbark hickory (Carya ovata)	Forest	8.7	4.5	TRUE			TRUE		TRUE	90% - 95%	
28	10	9/13/2023	Shagbark hickory (Carya ovata)	Forest	9.5	4.5	TRUE			TRUE		TRUE	95% - 99%	
28	11	9/13/2023	Shagbark hickory (Carya ovata)	Forest	5.3	4.5	TRUE			TRUE		TRUE	85% - 90%	
29	1	9/14/2023	Boxelder (Acer negundo)	Forest	11.9	4.5	TRUE			TRUE		TRUE	60% - 65%	
29	2	9/14/2023	White willow (Salix alba)	Forest	33.6	4.5	TRUE			TRUE		TRUE		0%
29	3	9/14/2023	Boxelder (Acer negundo)	Forest	10.2	4.5	TRUE			TRUE		TRUE	40% - 45%	
29	4	9/14/2023	Boxelder (Acer negundo)	Forest	19.8	4.5	TRUE			TRUE		TRUE	65% - 70%	
29	5	9/14/2023	American elm (Ulmus americana)	Forest	19.9	4.5	TRUE			TRUE		TRUE	85% - 90%	
30	1	9/14/2023	Black cherry (Prunus serotina)	Forest	5.6	4.5	TRUE			TRUE		TRUE		0%
30	2	9/14/2023	Black cherry (Prunus serotina)	Forest	5.6	4.5	TRUE			TRUE		TRUE		0%
30	3	9/14/2023	Black cherry (Prunus serotina)	Forest	7.3	4.5	TRUE			TRUE		TRUE		0%
30	4	9/14/2023	Northern hackberry (Celtis occidentalis)	Forest	12	4.5	TRUE			TRUE		TRUE	85% - 90%	
30	5	9/14/2023	Black cherry (Prunus serotina)	Forest	5.2	4.5	TRUE			TRUE		TRUE	70% - 75%	
30	6	9/14/2023	Northern hackberry (Celtis occidentalis)	Forest	5.2	4.5	TRUE			TRUE		TRUE	70% - 75%	
30	7	9/14/2023	Black cherry (Prunus serotina)	Forest	5.4	4.5	TRUE			TRUE		TRUE		0%
30	8	9/14/2023	Northern hackberry (Celtis occidentalis)	Forest	6.5	4.5	TRUE			TRUE		TRUE	75% - 80%	
30	9	9/14/2023	Black cherry (Prunus serotina)	Forest	6.6	4.5	TRUE			TRUE		TRUE	35% - 40%	
30	10	9/14/2023	Black cherry (Prunus serotina)	Forest	6.5	4.5	TRUE			TRUE		TRUE		0%
31	4	9/14/2023	American elm (Ulmus americana)	Forest	8.9	4.8	TRUE			TRUE		TRUE	70% - 75%	
31	5	9/14/2023	White oak (Quercus alba)	Forest	10.8	4.5	TRUE			TRUE		TRUE	80% - 85%	
32	1	9/14/2023	Northern hackberry (Celtis occidentalis)	Forest	15	4.5	TRUE			TRUE		TRUE		0%
32	2	9/14/2023	Black cherry (Prunus serotina)	Forest	6.5	4.5	TRUE			TRUE		TRUE	70% - 75%	
32	3	9/14/2023	Black cherry (Prunus serotina)	Forest	6.2	4.5	TRUE			TRUE		TRUE	70% - 75%	
32	4	9/14/2023	Black cherry (Prunus serotina)	Forest	6	4.5	TRUE			TRUE		TRUE	70% - 75%	
32	5	9/14/2023	American elm (Ulmus americana)	Forest	5.1	4.5	TRUE			TRUE		TRUE	75% - 80%	
32	6	9/14/2023	American elm (Ulmus americana)	Forest	5	4.5	TRUE			TRUE		TRUE	80% - 85%	
33	1	9/14/2023	Boxelder (Acer negundo)	Forest	21.1	4.5	TRUE	22.5	4.5	TRUE		TRUE	80% - 85%	
33	2	9/14/2023	American elm (Ulmus americana)	Forest	10.4	4.5	TRUE			TRUE		TRUE	75% - 80%	
33	3	9/14/2023	American elm (Ulmus americana)	Forest	8.4	4.5	TRUE			TRUE		TRUE	80% - 85%	
33	4	9/14/2023	Black cherry (Prunus serotina)	Forest	10.1	4.5	TRUE			TRUE		TRUE	70% - 75%	
34	1	9/14/2023	Black walnut (Juglans nigra)	Forest	20	4.5	TRUE			TRUE		TRUE	95% - 99%	
34	2	9/14/2023	Black walnut (Juglans nigra)	Forest	10.2	4.5	TRUE			TRUE		TRUE	90% - 95%	
34	3	9/14/2023	Black walnut (Juglans nigra)	Forest	10.5	4.5	TRUE			TRUE		TRUE	90% - 95%	
35	1	9/14/2023	Northern red oak (Quercus rubra)	Forest	9.8	4.5	TRUE			TRUE		TRUE	40% - 45%	
35	2	9/14/2023	Shagbark hickory (Carya ovata)	Forest	9.5	4.5	TRUE			TRUE		TRUE	75% - 80%	
35	3	9/14/2023	Black cherry (Prunus serotina)	Forest	5.8	4.5	TRUE			TRUE		TRUE	40% - 45%	
35	4	9/14/2023	Northern red oak (Quercus rubra)	Forest	5	4.5	TRUE			TRUE		TRUE	55% - 60%	
35	5	9/14/2023	Black cherry (Prunus serotina)	Forest	5.1	4.5	TRUE			TRUE		TRUE	45% - 50%	
35	6	9/14/2023	Shagbark hickory (Carya ovata)	Forest	7.2	4.5	TRUE			TRUE		TRUE	70% - 75%	
35	7	9/14/2023	Shagbark hickory (Carya ovata)	Forest	11.7	4.5	TRUE			TRUE		TRUE	85% - 90%	
35	8	9/14/2023	Black cherry (Prunus serotina)	Forest	10.8	4.5	TRUE			TRUE		TRUE	25% - 30%	
37	1	9/25/2023	Shagbark hickory (Carya ovata)	Forest	14.6	4.5	TRUE			TRUE		TRUE	85% - 90%	
37	2	9/25/2023	Shagbark hickory (Carya ovata)	Forest	9.3	4.5	TRUE			TRUE		TRUE	85% - 90%	
37	3	9/25/2023	Black cherry (Prunus serotina)	Forest	17.8	4.5	TRUE			TRUE		TRUE	80% - 85%	
37	4	9/25/2023	Black cherry (Prunus serotina)	Forest	16.5	4.5	TRUE			TRUE		TRUE	85% - 90%	
37	5	9/25/2023	Shagbark hickory (Carya ovata)	Forest	12.6	4.5	TRUE			TRUE		TRUE	85% - 90%	
37	6	9/25/2023	American elm (Ulmus americana)	Forest	6.1	4.5	TRUE			TRUE		TRUE	90% - 95%	
37	7	9/25/2023	Shagbark hickory (Carya ovata)	Forest	6.9	4.5	TRUE			TRUE		TRUE	95% - 99%	
38	1	9/25/2023	Black cherry (Prunus serotina)	Forest	6.9	4.5	TRUE			TRUE		TRUE	65% - 70%	
38	2	9/25/2023	Northern red oak (Quercus rubra)	Forest	18.6	4.5	TRUE			TRUE		TRUE	90% - 95%	
38	3	9/25/2023	Shagbark hickory (Carya ovata)	Forest	20.2	4.5	TRUE			TRUE		TRUE	90% - 95%	
38	4	9/25/2023	Black cherry (Prunus serotina)	Forest	21.5	4.5	TRUE			TRUE		TRUE	85% - 90%	
39	1	9/25/2023	Black cherry (Prunus serotina)	Forest	18.2	4.5	TRUE			TRUE		TRUE	50% - 55%	
39	2	9/25/2023	Black cherry (Prunus serotina)	Forest	14.8	4.5	TRUE			TRUE		TRUE	65% - 70%	
39	3	9/25/2023	Shagbark hickory (Carya ovata)	Forest	8.5	4.5	TRUE			TRUE		TRUE	85% - 90%	
39	4	9/25/2023	Shagbark hickory (Carya ovata)	Forest	9.2	4.5	TRUE			TRUE		TRUE	90% - 95%	
39	5	9/25/2023	Black cherry (Prunus serotina)	Forest	5.2	4.5	TRUE			TRUE		TRUE	75% - 80%	
39	6	9/25/2023	American elm (Ulmus americana)	Forest	6.8	4.5	TRUE			TRUE		TRUE	55% - 60%	
40	1	9/25/2023	American elm (Ulmus americana)	Forest	8.5	4.5	TRUE			TRUE		TRUE	90% - 95%	
40	2	9/25/2023	American elm (Ulmus americana)	Forest	8.5	4.5	TRUE			TRUE		TRUE	85% - 90%	
40	3	9/25/2023	Shagbark hickory (Carya ovata)	Forest	5.8	4.5	TRUE			TRUE		TRUE	90% - 95%	
40	4	9/25/2023	Swamp white oak (Quercus bicolor)	Forest	12.6	4.5	TRUE			TRUE		TRUE	75% - 80%	
40	5	9/25/2023	American elm (Ulmus americana)	Forest	20.8	4.5	TRUE			TRUE		TRUE		0%
40	6	9/25/2023	Northern hackberry (Celtis occidentalis)	Forest	6.9	4.5	TRUE			TRUE		TRUE	80% - 85%	
40	7	9/25/2023	American elm (Ulmus americana)	Forest	14	4.5	TRUE			TRUE		TRUE	95% - 99%	
41	1	9/25/2023	Northern red oak (Quercus rubra)	Forest	22.6	4.5	TRUE			TRUE		TRUE	70% - 75%	
41	2	9/25/2023	American elm (Ulmus americana)	Forest	11.9	4.5	TRUE			TRUE		TRUE	85% - 90%	
41	3	9/25/2023	American elm (Ulmus americana)	Forest	5.8	4.5	TRUE			TRUE		TRUE		0%
41	4	9/25/2023	Shagbark hickory (Carya ovata)	Forest	8.8	4.5	TRUE			TRUE		TRUE	85% - 90%	
41	5	9/25/2023	Shagbark hickory (Carya ovata)	Forest	11.9	4.5	TRUE			TRUE		TRUE	60% - 65%	
45	1	10/16/2023	Shagbark hickory (Carya ovata)	Forest	11.4	4.5	TRUE			TRUE		TRUE	80% - 85%	
45	2	10/16/2023	Shagbark hickory (Carya ovata)	Forest	6.9	4.5	TRUE			TRUE		TRUE	90% - 95%	
45	3	10/16/2023	Black cherry (Prunus serotina)	Forest	14.5	4.5	TRUE			TRUE		TRUE	70% - 75%	
45	4	10/16/2023	White oak (Quercus alba)	Forest	19.6	4.5	TRUE			TRUE		TRUE	75% - 80%	
45	5	10/16/2023	Shagbark hickory (Carya ovata)	Forest	10.2	4.5	TRUE			TRUE		TRUE	90% - 95%	
46	1	10/16/2023	Shagbark hickory (Carya ovata)	Forest	5.9	4.5	TRUE			TRUE		TRUE	80% - 85%	
46	2	10/16/2023	Shagbark hickory (Carya ovata)	Forest	6.5	4.5	TRUE			TRUE		TRUE	85% - 90%	
46	3	10/16/2023	Black cherry (Prunus serotina)	Forest	5.6	4.5	TRUE			TRUE		TRUE	80% - 85%	
46	4	10/16/2023	American elm (Ulmus americana)	Forest	6.9	4.5	TRUE			TRUE		TRUE	80% - 85%	
46	5	10/16/2023	American elm (Ulmus americana)	Forest	9.6	4.5	TRUE			TRUE		TRUE	90% - 95%	
46	6	10/16/2023	American elm (Ulmus americana)	Forest	8.7	4.5	TRUE			TRUE		TRUE	75% - 80%	
47	1	10/16/2023	Shagbark hickory (Carya ovata)	Forest	12.5	4.5	TRUE			TRUE		TRUE	85% - 90%	
47	2	10/16/2023	Black cherry (Prunus serotina)	Forest	12.6	4.5	TRUE			TRUE		TRUE		0%
47	3	10/16/2023	Black cherry (Prunus serotina)	Forest	5.8	4.5	TRUE			TRUE		TRUE	75% - 80%	
47	4	10/16/2023	Black cherry (Prunus serotina)	Forest	18.2	4.5	TRUE			TRUE		TRUE	90% - 95%	
47	5	10/16/2023	Bur oak (Quercus macrocarpa)	Forest	15.9	4.5	TRUE			TRUE		TRUE	75% - 80%	
47	6	10/16/2023	American elm (Ulmus americana)	Forest	8.5	4.5	TRUE			TRUE		TRUE	90% - 95%	
48	1	10/16/2023	Shagbark hickory (Carya ovata)	Forest	8.9	4.5	TRUE			TRUE		TRUE	85% - 90%	
48	2	10/16/2023	Shagbark hickory (Carya ovata)	Forest	5.1	4.5	TRUE			TRUE		TRUE	75% - 80%	
48	3	10/16/2023	American elm (Ulmus americana)	Forest	6.6	4.5	TRUE			TRUE		TRUE	75% - 80%	
48	4	10/16/2023	Black cherry (Prunus serotina)	Forest	9.8	4.5	TRUE			TRUE		TRUE	80% - 85%	
48	5	10/16/2023	Black cherry (Prunus serotina)	Forest	10.4	4.5	TRUE			TRUE		TRUE	80% - 85%	
48	6	10/16/2023	American elm (Ulmus americana)	Forest	6	4.5	TRUE			TRUE		TRUE		0%
48	7	10/16/2023	American elm (Ulmus americana)	Forest	6.2	4.5	TRUE			TRUE		TRUE		0%
48	8	10/16/2023	American elm (Ulmus americana)	Forest	12.3	4.5	TRUE			TRUE		TRUE		0%
50	1	10/16/2023	Shagbark hickory (Carya ovata)	Forest	15.5	4.5	TRUE			TRUE		TRUE	90% - 95%	
50	2	10/16/2023	Black cherry (Prunus serotina)	Forest	11.6	4.5	TRUE			TRUE		TRUE	60% - 65%	
50	3	10/16/2023	American elm (Ulmus americana)	Forest	14.2	4.5	TRUE			TRUE		TRUE		0%
50	4	10/16/2023	American elm (Ulmus americana)	Forest	8.6	4.5	TRUE			TRUE		TRUE		0%

ID	Stratum	Date	Crew	Size (ac)	Stake	% Tree	% Measured	Complete?
1	Wooded	9/15/2023	TP	0.1	FALSE	95% - 99%	100	TRUE
2	Wooded	9/15/2023	TP	0.1	FALSE	95% - 99%	100	TRUE
3	Wooded	9/15/2023	TP	0.1	FALSE	90% - 95%	100	TRUE
4	Wooded	9/15/2023	TP	0.1	FALSE	85% - 90%	100	TRUE
5	Wooded	9/15/2023	TP	0.1	FALSE	85% - 90%	100	TRUE
6	Wooded	9/15/2023	TP	0.1	FALSE	85% - 90%	100	TRUE
7	Wooded	9/15/2023	TP	0.1	FALSE	90% - 95%	100	TRUE
8	Wooded	9/15/2023	TP	0.1	FALSE	95% - 99%	100	TRUE
9	Wooded	9/15/2023	TP	0.1	FALSE	75% - 80%	100	TRUE
10	Wooded	9/22/2023	TP	0.1	FALSE	95% - 99%	100	TRUE
11	Wooded	9/22/2023	TP	0.1	FALSE	90% - 95%	100	TRUE
12	Wooded	9/22/2023	TP	0.1	FALSE	85% - 90%	100	TRUE
13	Wooded	9/22/2023	TP	0.1	FALSE	90% - 95%	100	TRUE
14	Wooded	9/22/2023	TP	0.1	FALSE	95% - 99%	100	TRUE
15	Wooded	9/22/2023	TP	0.1	FALSE	80% - 85%	100	TRUE
16	Wooded	10/9/2023	TP	0.1	FALSE	90% - 95%	100	TRUE
17	Wooded	10/9/2023	TP	0.1	FALSE	80% - 85%	100	TRUE
18	Wooded	10/9/2023	TP	0.1	FALSE	85% - 90%	100	TRUE
19	Wooded	10/9/2023	TP	0.1	FALSE	80% - 85%	100	TRUE
20	Wooded	9/13/2023	TP	0.1	FALSE	85% - 90%	100	TRUE
21	Wooded	9/13/2023	TP	0.1	FALSE	60% - 65%	100	TRUE
22	Wooded	9/13/2023	TP	0.1	FALSE	75% - 80%	100	TRUE
23	Wooded	9/13/2023	TP	0.1	FALSE	70% - 75%	100	TRUE
24	Wooded	9/13/2023	TP	0.1	FALSE	70% - 75%	100	TRUE
25	Wooded	9/13/2023	TP	0.1	FALSE	90% - 95%	100	TRUE
26	Wooded	45182	TP	0.1	FALSE	95% - 99%	100	TRUE
27	Wooded	9/13/2023	TP	0.1	FALSE	55% - 60%	100	TRUE
28	Wooded	45182	TP	0.1	FALSE	80% - 85%	100	TRUE
29	Wooded	9/14/2023	TP	0.1	FALSE	65% - 70%	100	TRUE
30	Wooded	9/14/2023	TP	0.1	FALSE	80% - 85%	100	TRUE
31	Wooded	9/14/2023	TP	0.1	FALSE	80% - 85%	100	TRUE
32	Wooded	9/14/2023	TP	0.1	FALSE	80% - 85%	100	TRUE
33	Wooded	45183	TP	0.1	FALSE	70% - 75%	100	TRUE
34	Wooded	45183	TP	0.1	FALSE	90% - 95%	100	TRUE
35	Wooded	9/14/2023	TP	0.1	FALSE	60% - 65%	100	TRUE
36	Wooded			0.1	FALSE	-- Not Entered --	100	FALSE
37	Wooded	9/25/2023	TP	0.1	FALSE	90% - 95%	100	TRUE
38	Wooded	9/25/2023	TP	0.1	FALSE	80% - 85%	100	TRUE
39	Wooded	9/25/2023	TP	0.1	FALSE	80% - 85%	100	TRUE
40	Wooded	45194	TP	0.1	FALSE	90% - 95%	100	TRUE
41	Wooded	9/25/2023	TP	0.1	FALSE	85% - 90%	100	TRUE
42	Wooded			0.1	FALSE	-- Not Entered --	100	FALSE
43	Wooded			0.1	FALSE	-- Not Entered --	100	FALSE
44	Wooded			0.1	FALSE	-- Not Entered --	100	FALSE
45	Wooded	45215	TP	0.1	FALSE	80% - 85%	100	TRUE
46	Wooded	45215	TP	0.1	FALSE	65% - 70%	100	TRUE

47	Wooded	45215 TP	0.1	FALSE	75% - 80%	100	TRUE
48	Wooded	45215 TP	0.1	FALSE	85% - 90%	100	TRUE
49	Wooded		0.1	FALSE	-- Not Entered --	100	FALSE
50	Wooded	45215 TP	0.1	FALSE	65% - 70%	100	TRUE
51	Wooded		0.1	FALSE	-- Not Entered --	100	FALSE
52	Wooded		0.1	FALSE	-- Not Entered --	100	FALSE
53	Wooded		0.1	FALSE	-- Not Entered --	100	FALSE
54	Wooded		0.1	FALSE	-- Not Entered --	100	FALSE
55	Wooded		0.1	FALSE	-- Not Entered --	100	FALSE

Plot	Land Use	% of Plot
1	Forest	100
2	Forest	100
3	Forest	100
4	Forest	100
5	Forest	100
6	Forest	100
7	Forest	100
8	Forest	100
9	Forest	100
10	Forest	100
11	Forest	100
12	Forest	100
13	Forest	100
14	Forest	100
15	Forest	100
16	Forest	100
17	Forest	100
18	Forest	100
19	Forest	100
20	Forest	100
21	Forest	100
22	Forest	100
23	Forest	100
24	Forest	100
25	Forest	100
26	Forest	100
27	Forest	100
28	Forest	100
29	Forest	100
30	Forest	100
31	Forest	100
32	Forest	100
33	Forest	100
34	Forest	100
35	Forest	100
37	Forest	100
38	Forest	100
39	Forest	100
40	Forest	100
41	Forest	100
45	Forest	100
46	Forest	100
47	Forest	100
48	Forest	100
50	Forest	100

Tree Characteristics Chart(s)

I. Tree Characteristics of the Urban Forest

The urban forest of KenneyClay has an estimated 3,369 trees with a tree cover of 84.4 percent. The three most common species are Shagbark hickory (25.5 percent), American elm (23.3 percent), and Black cherry (20.4 percent).

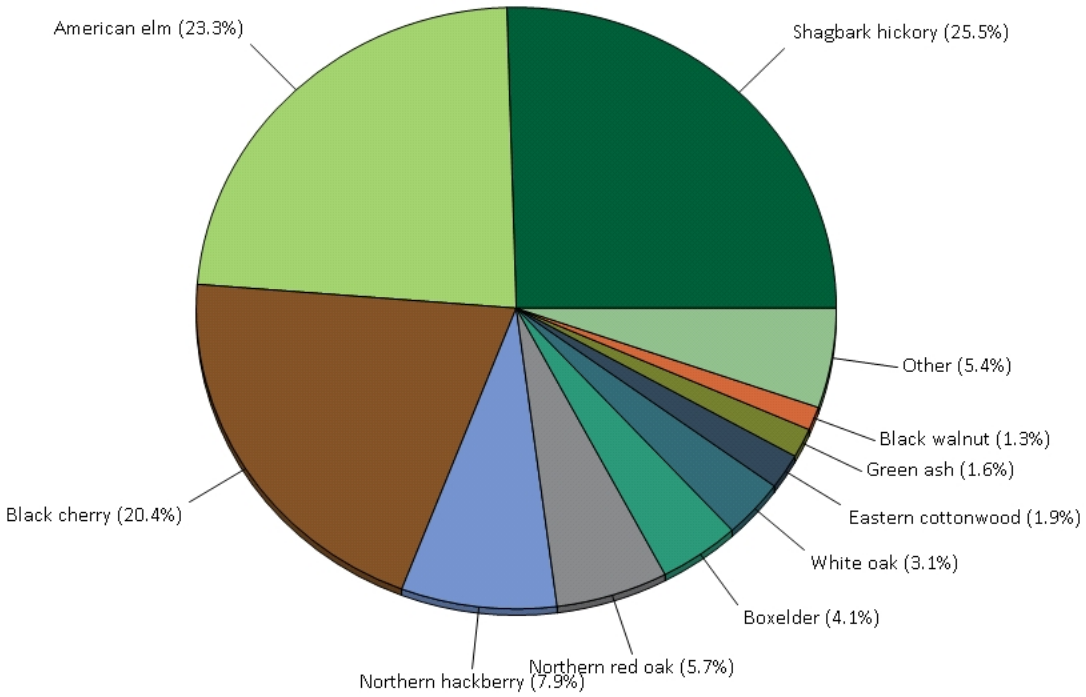


Figure 1. Tree species composition in KenneyClay

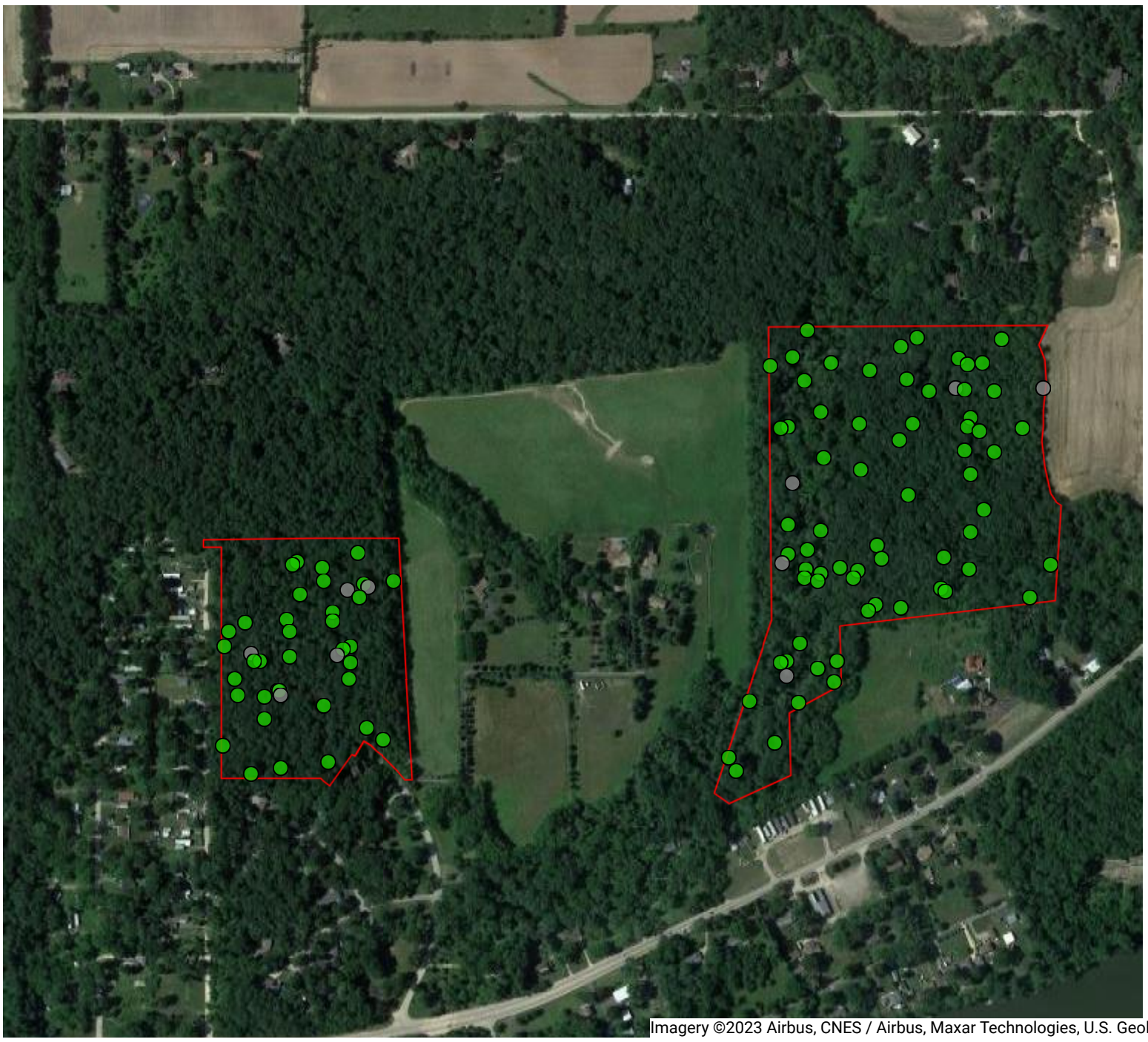
The overall tree density in KenneyClay is 175 trees/hectare (see Appendix III for comparable values from other cities).

iTree Canopy Report

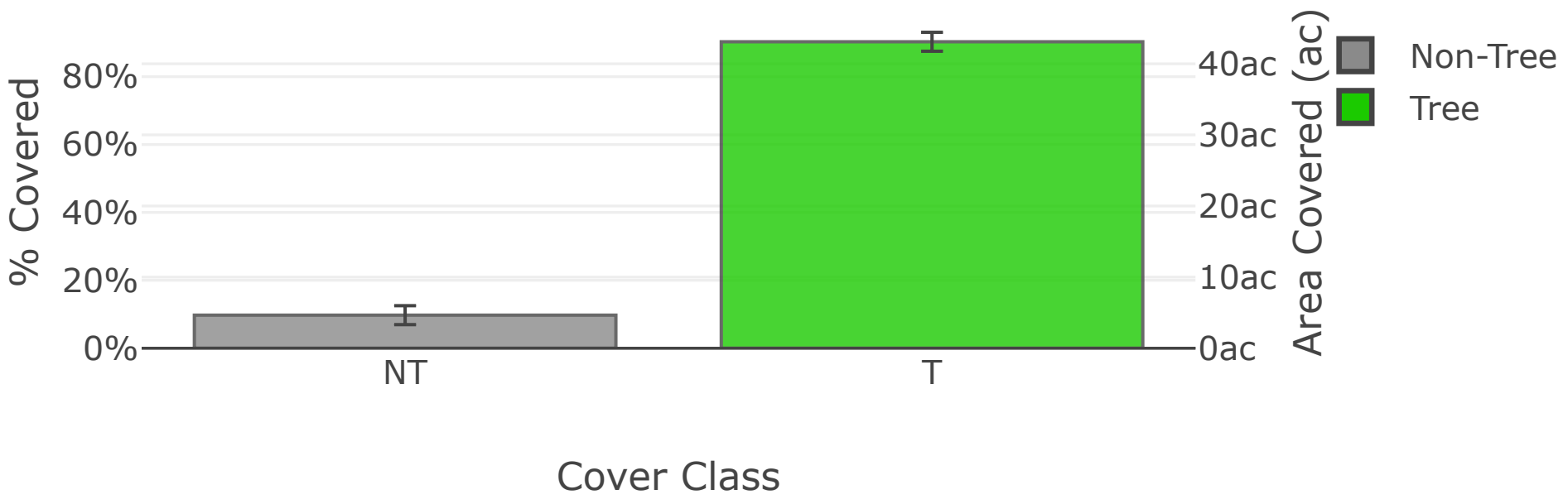
i-Tree Canopy

Cover Assessment and Tree Benefits Report

Estimated using random sampling statistics on 9/19/2023



Land Cover



Abbr.	Cover Class	Description	Points	% Cover ± SE	Area (ac) ± SE
NT	Non-Tree	All other surfaces	11	9.73 ± 2.79	4.65 ± 1.33
T	Tree	Tree, non-shrub	102	90.27 ± 2.79	43.10 ± 1.33
Total			**113**	**100.00**	**47.75**

Tree Benefit Estimates: Carbon (English units)

Description	Carbon (T)	±SE	CO_2 Equiv. (T)	±SE	Value (USD)	±SE
Sequestered annually in trees	54.41	±1.68	199.50	±6.16	$9,279	±287
Stored in trees (Note: this benefit is not an annual rate)	1,477.46	±45.64	5,417.35	±167.36	$251,982	±7,784

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	38.43	±1.19	$8	±0
NO2	Nitrogen Dioxide removed annually	554.75	±17.14	$45	±1
O3	Ozone removed annually	1,431.10	±44.21	$728	±22
SO2	Sulfur Dioxide removed annually	59.67	±1.84	$3	±0
PM2.5	Particulate Matter less than 2.5 microns removed annually	70.01	±2.16	$1,126	±35
PM10*	Particulate Matter greater than 2.5 microns and less than 10 microns removed annually	371.82	±11.49	$355	±11
Total		**2,525.79**	**±78.03**	**$2,266**	**±70**

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 0.892 @ $0.21 | NO2 12.872 @ $0.08 | O3 33.205 @ $0.51 | SO2 1.385 @ $0.05 | PM2.5 1.624 @ $16.09 | PM10* 8.627 @ $0.96 (English units: lb = pounds, ac = acres)

Tree Benefit Estimates: Hydrological (English units)

Abbr.	Benefit	Amount (Kgal)	±SE	Value (USD)	±SE
AVRO	Avoided Runoff	200.77	±6.20	$1,794	±55
E	Evaporation	2,546.88	±78.68	N/A	N/A
I	Interception	2,548.71	±78.74	N/A	N/A
T	Transpiration	6,491.73	±200.55	N/A	N/A
PE	Potential Evaporation	26,199.15	±809.36	N/A	N/A
PET	Potential Evapotranspiration	17,281.14	±533.86	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 4.658 @ $8.94 | E 59.095 @ N/A | I 59.137 @ N/A | T 150.626 @ N/A | PE 607.892 @ N/A | PET 400.970 @ 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:

Carbon Biomass Report

Benefits Summary of Trees by Species

Location: Rockford, Winnebago, Illinois, United States of America
Project: KenneyClay, Series: KenneyClay, Year: 2023
Generated: 1/2/2024

Species	Trees		Carbon Storage	
	Number	SE	(metric ton)	SE
Boxelder	138	±49	46.55	±24.14
Silver maple	21	±14	7.60	±6.49
Shagbark hickory	858	±114	278.90	±50.67
Northern hackberry	265	±68	13.89	±3.29
Green ash	53	±33	13.49	±7.73
Black walnut	42	±32	14.03	±12.39
White mulberry	42	±24	7.36	±4.06
Eastern cottonwood	64	±51	34.68	±26.10
Black cherry	689	±134	153.08	±29.88
White oak	106	±45	123.73	±87.73
Swamp white oak	11	±10	3.93	±3.74
Northern pin oak	11	±10	21.48	±20.44
Bur oak	32	±22	58.77	±51.22
Pin oak	11	±10	3.96	±3.76
Northern red oak	191	±46	131.96	±48.17
Willow spp	11	±10	6.75	±6.42
White willow	11	±10	21.10	±20.08
American basswood	32	±30	1.26	±1.20
American elm	784	±127	94.44	±17.03
Total	**3,369**	**±224**	**1,036.94**	**±146.02**

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 45 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 1,036.94. The standard error is 146.02.

Biomass tC/ac = (metric tons of carbon – standard error)/project area acres
(1036.94-146.02)/47.67 = 18.69 (cell B11 on attachment 12)

Cobenefit Calculator

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)	11,604.9	$83,088.91
Air Quality (t/yr)		
O3	0.2214	$335.49
NOx	0.0370	$55.99
PM10	0.1133	$145.97
Net VOCs	0.1140	$193.87
Air Quality Total	0.4857	$731.31
Energy (kWh/yr & kBtu/yr)		
Cooling - Elec.	91,353	$6,933.67
Heating - Nat. Gas	1,708,137	$16,628.33
Energy Total ($/yr)		$23,562.00
Grand Total ($/yr)		$107,382.21

##########

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 Cover	Total Project Area
Percent (%)	90%	0%	90%	10%	100%
Area (sq miles)	0.067	0.000	0.067	0.007	0.07
Area (m2)	173,609	0	173,609	19,303	192,912
Area (acres)	42.9	0.00	42.90	4.77	47.67

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 a tree protection project that will reduce/remove air pollutants through preserving those regulating ecosystem services that protecting tree provides. The trees in the project will provide enhanced biodiversity for habitat and food for wildlife, including supporting pollinators as it lies within a larger complex of protected areas in the region. It will also create nature experiences as it is open to the public for passive recreation such as hiking, birdwatching, etc. The project is located near residential areas and was purchased to be located near to people to encourage recreation and promote an active, healthy lifestyle. The region suffers from flooding in certain areas, and this project will continue to provide the ecosystem services of infiltration of stormwater and reduce stormwater runoff.

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

This project is located within the floodplain of Silver Creek, which is culturally important to the community, but has suffered degradation under modern agricultural uses. The Silver Creek watershed has protected areas and a stream survey has been completed higher up the stream channel with some high-quality species identified in the stream. The upland forest will continue to improve infiltration rates and prevent soil erosion. Protection of the forested floodplain will enhance water quality and protect the stream from channel down-cutting and degradation, resulting in cleaner water downstream.

Improving infiltration rates is important to our community as our region taps into groundwater aquifers for our water supply. According to the Chicago Metropolitan Agency for Planning's '*Water 2050 Regional Water Supply/Demand Plan*', our regional aquifer withdrawals in both the shallow and deep bedrock aquifers exceed the re-charge rate. Protecting and improving infiltration rates is a significant ecosystem service for this region. The forest also cleans stormwater runoff as it infiltrates into the water supply aquifers.

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

NLI has a partnership with Rockford Promise, which provides paid summer internship opportunities for career pathway development for college students from underserved communities to experience a career in the environmental sciences. We also have paid interns through the AmeriCorps program each year. Their work will include habitat management activities at this project site. The income from the carbon credit sale will also be used to sustain our full time Stewardship staff.

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

Our organization has a robust community volunteer program where the local community is engaged in forest health management activities and learning opportunities including tree identification workshops, forest management techniques and trainings and surface water health of streams and aquifers. This site will also have guided walks to encourage the public to participate in these volunteer and learning activities, and also to provide an easily accessible area for the enjoyment of nature. Interpretative signage is planned for installation. NLI has a partnership with Rockford Promise, which provides paid summer internship opportunities for career pathway development for college students from underserved communities to experience a career in the environmental sciences through hands on training. We also have paid interns through the AmeriCorps program each year. Their work will include habitat management activities at this project site.

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

This project is a tree protection project that will reduce/remove air pollutants through preserving those regulating ecosystem services that protecting tree provides. The project is located within the Region 1 Planning Council for the Rockford region to encourage recreational activities such as hiking, birdwatching, snowshoeing to promote an active lifestyle for residents in the area. This project provides an opportunity for residents to improve their wellness and mental health through the creation of nature experiences either guided by our staff and volunteers, or self-guided. Interpretative signage is planned for installation. This protection project will also optimize biodiversity as it is located within a larger complex of protected lands.

Our organization has a robust community volunteer program where the local community is engaged in forest health management activities and learning opportunities including tree identification workshops,

forest management techniques and trainings, and surface water health of streams and aquifers. This site will also have guided walks to encourage the public to participate in these volunteer and learning activities, and also to provide an easily accessible area for the enjoyment of nature. NLI has a partnership with Rockford Promise, which provides paid summer internship opportunities for career pathway development for college students from underserved communities to experience a career in the environmental sciences through hands on training. We also have paid interns through the AmeriCorps program each year. Their work will include habitat management activities at this project site.

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

This project is located within the floodplain of Silver Creek, which is culturally important to the community, but has suffered degradation under modern agricultural uses. The Silver Creek watershed has protected areas and a stream survey has been completed higher up the stream channel with some high-quality species identified in the stream. The upland forest will continue to improve infiltration rates and prevent soil erosion. Protection of the forested floodplain will enhance water quality and protect the stream from channel down-cutting and degradation, resulting in cleaner water downstream.

Improving infiltration rates is important to our community as our region taps into groundwater aquifers for our water supply. According to the Chicago Metropolitan Agency for Planning's '*Water 2050 Regional Water Supply/Demand Plan*', our regional aquifer withdrawals in both the shallow and deep bedrock aquifers exceed the re-charge rate. Protecting and improving infiltration rates is a significant ecosystem service for this region.

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

This project is a tree protection project that will reduce/remove air pollutants through preserving those Regulating ecosystem services that protecting tree provides. The project is located within the Region 1 Planning Council for the Rockford region to encourage recreational activities such as hiking, birdwatching, snowshoeing to promote an active lifestyle for residents in the area. This project provides an opportunity for residents to improve their wellness and mental health through the creation of nature experiences either guided by our staff and volunteers, or self-guided. Interpretative signage is planned for installation. This protection project will also optimize biodiversity as it is located within a larger complex of protected lands.

Our organization has a robust community volunteer program where the local community is engaged in forest health management activities and learning opportunities including tree identification workshops, forest management techniques and trainings, and surface water health of streams and aquifers. This site will also have guided walks to encourage the public to participate in these volunteer and learning activities, and also to provide an easily accessible area for the enjoyment of nature, their well-being and providing a significant aesthetic value.

NLI has a partnership with Rockford Promise, which provides paid summer internship opportunities for career pathway development for college students from underserved communities to experience a career in the environmental sciences through hands on training. We also have paid interns through the AmeriCorps program each year. Their work will include habitat management activities at this project site.

This project is located within the floodplain of Silver Creek, which is culturally important to the community, but has suffered degradation under modern agricultural uses. The Silver Creek watershed has protected areas and a stream survey has been completed higher up the stream channel with some high-quality species identified in the stream. The upland forest will continue to improve infiltration rates

and prevent soil erosion. Protection of the forested floodplain will enhance water quality and protect the stream from channel down-cutting and degradation, resulting in cleaner water downstream.

Improving infiltration rates is important to our community as our region taps into groundwater aquifers for our water supply. According to the Chicago Metropolitan Agency for Planning's '*Water 2050 Regional Water Supply/Demand Plan*', our regional aquifer withdrawals in both the shallow and deep bedrock aquifers exceed the re-charge rate. Protecting and improving infiltration rates is a significant ecosystem service for this region.

This project supports enhanced wildlife habitat including supporting pollinators and bird populations as well as enhanced soil health through soil formation, nutrient and water cycling and photosynthesis. This protection project provides climate regulating services as it is a sink for greenhouse gasses including CO2 and evapotranspiration. This project will prevent deforestation within an agricultural zoning area.

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 is located within the floodplain of Silver Creek, which is culturally important to the community, but has suffered degradation under modern agricultural uses. The Silver Creek watershed has protected areas and a stream survey has been completed higher up the stream channel with some high-quality species identified in the stream. The upland forest will continue to improve infiltration rates and prevent soil erosion. Protection of the forested floodplain will enhance water quality and protect the stream from channel down-cutting and degradation, resulting in cleaner water downstream.

Improving infiltration rates is important to our community as our region taps into groundwater aquifers for our water supply. According to the Chicago Metropolitan Agency for Planning's '*Water 2050 Regional Water Supply/Demand Plan*', our regional aquifer withdrawals in both the shallow and deep bedrock aquifers exceed the re-charge rate. Protecting and improving infiltration rates is a significant ecosystem service for this region.

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 will protect trees, reducing stormwater runoff and improving aquifer infiltration. Improving infiltration rates is important to our community as our region taps into groundwater aquifers for our water supply. According to the Chicago Metropolitan Agency for Planning's '*Water 2050 Regional Water Supply/Demand Plan*', our regional aquifer withdrawals in both the shallow and deep bedrock aquifers exceed the re-charge rate. Protecting and improving infiltration rates is a significant ecosystem service for this region.

This project supports enhanced wildlife habitat including supporting pollinators and bird populations as well as enhanced soil health through soil formation, nutrient and water cycling and photosynthesis. The trees in the project will provide enhanced biodiversity for habitat and food for wildlife, including supporting pollinators as it lies within a larger complex of protected areas in the region.

The project is moderately sloped from the upland forest to the floodplain forest along the creek, and protecting the soils from erosion is a function of a healthy forest floor that manages and removes invasive species to allow for a robust cover of ephemeral and other native groundcover holding the soils in place. Removal of invasive species that shade out a healthy native groundcover will also improve the soil infiltration rates for recharging our groundwater aquifers and reducing stormwater runoff.

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

Our organization has a robust community volunteer program where the local community is engaged in forest health management activities and learning opportunities including tree identification workshops, forest management techniques and trainings, and surface water health of streams and aquifers. This site will also have guided walks to encourage the public to participate in these volunteer and learning activities, and also to provide an easily accessible area for the enjoyment of nature, their well-being and providing a significant aesthetic value.

Summary of Project Social Impacts

This project will protect trees, reducing stormwater runoff and improving aquifer infiltration. Improving infiltration rates is important to our community as our region taps into groundwater aquifers for our water supply. According to the Chicago Metropolitan Agency for Planning's '*Water 2050 Regional Water Supply/Demand Plan*', our regional aquifer withdrawals in both the shallow and deep bedrock aquifers exceed the re-charge rate. Protecting and improving infiltration rates is a significant ecosystem service for this region.

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The project is moderately sloped from the upland forest to the floodplain forest along the creek, and protecting the soils from erosion is a function of a healthy forest floor that manages and removes invasive species to allow for a robust cover of ephemeral and other native groundcover holding the soils in place. Removal of invasive species that shade out a healthy native groundcover will also improve the soil infiltration rates for recharging our groundwater aquifers and reducing stormwater runoff.

This project is a tree protection project that will reduce/remove air pollutants through preserving those Regulating ecosystem services that protecting tree provides. This protection project will also optimize biodiversity as it is located within a larger complex of protected lands.

Our organization has a robust community volunteer program where the local community is engaged in forest health management activities and learning opportunities including tree identification workshops, forest management techniques and trainings, and surface water health of streams and aquifers. NLI has a partnership with Rockford Promise and AmeriCorps, which provides paid summer internship opportunities for career pathway development through hands on training.

This project is located within the floodplain of Silver Creek, which is culturally important to the community, but has suffered degradation under modern agricultural uses. The upland forest will continue to improve infiltration rates and prevent soil erosion, enhance water quality and protect the stream from channel down-cutting and degradation, resulting in cleaner water downstream. Improving infiltration rates is important to our community as our region taps into groundwater aquifers for our water supply.

This project supports enhanced wildlife habitat including supporting pollinators and bird populations as well as enhanced soil health through soil formation, nutrient and water cycling and photosynthesis. This

protection project provides climate regulating services as it is a sink for greenhouse gasses including CO2 and evapotranspiration. This project will prevent deforestation within an agricultural zoning area.

This project is located within the floodplain of Silver Creek, which is culturally important to the community, but has suffered degradation under modern agricultural uses. The Silver Creek watershed has protected areas and a stream survey has been completed higher up the stream channel with some high-quality species identified in the stream. The upland forest will continue to improve infiltration rates and prevent soil erosion. Protection of the forested floodplain will enhance water quality and protect the stream from channel down-cutting and bank degradation, resulting in cleaner water downstream.

Improving infiltration rates is important to our community as our region taps into groundwater aquifers for our water supply. According to the Chicago Metropolitan Agency for Planning's '*Water 2050 Regional Water Supply/Demand Plan*', our regional aquifer withdrawals in both the shallow and deep bedrock aquifers exceed the re-charge rate. Protecting and improving infiltration rates is a significant ecosystem service for this region, and the forest also cleans runoff as it infiltrates into the water supply aquifers.