**PROJECT TITLE:** Leveraging Carbon and Stormwater to Preserve Community Forests

1. **PROJECT STATEMENT**

Community trees sequester enormous amounts of carbon, reduce stormwater, improve air quality, save energy, and improve human health. This project pioneers the preservation of at-risk mature ash trees by securing and selling carbon credits associated with 6,000 community ash trees. It incentivizes the long-term preservation of these trees and serves as a model climate mitigation strategy.

The US Forest Service’s iTree benefits calculator estimates that an average-size ash tree in Minnesota provides $218 in benefits annually. For each tree, this includes nearly 1,000 pounds of sequestered and avoided carbon dioxide, and annual rainwater interception of 2,600 gallons. Our grant work will generate credits for these benefits – specifically, carbon credits through carbon sequestration, and stormwater reduction credits through the quantification of rainfall interception. These funding sources will help local governments preserve community trees and contribute to both local and statewide climate mitigation strategies.

Participating LGUs will employ industry-standard preservation practices including scheduled EAB prevention injections on selected ash trees every three years for the first six years of the program and every five years thereafter to a total of twenty years. In addition, LGUs will be responsible for compliance with an EAB carbon protocol, and necessary recordkeeping. This grant work can then be deployed across Minnesota as a quantifiable climate mitigation strategy to assist in Minnesota’s statewide climate and water quality goals.

**II. PROJECT ACTIVITIES AND OUTCOMES**

This project builds on several successful tree carbon credit mechanisms. Key project deliverables include:

* Developing a new carbon credit protocol specific to ash trees
* Creating a stormwater calculator that estimates costs avoided from ash tree preservation
* Applying a carbon protocol and investing credit revenue through participating six Minnesota cities
* Preserving 6,000 mature community ash trees up to 20 years, and
* Positioning carbon and stormwater credits as strategies for statewide community forestry management.

**Activity 1: EAB Carbon Credit Protocol Development**

City Forest Credits will develop a carbon protocol for EAB management. The protocol will establish rules for earning and quantifying carbon credits. Local and national forestry service providers, and universities engaged in EAB scientific research, will assist in drafting and peer review. Issuance and sale of carbon credits will fund a percentage of the ash tree treatment.

**ENRTF BUDGET: $25,000 ($25,000 cash match from City Forest Credit’s use of a Doris Duke Foundation grant)**

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| **Outcome** | **Completion Date** |
| *EAB Protocol developed to establish eligibility, quantification of CO2, and credit issuance* | *12/2020* |
| *Third-party verified carbon credits issued and sold based on EAB Protocol* | *12/2020* |

**Activity 2: Preserve 6,000 Public Ash Trees using Carbon Credit Proceeds and Avoided Costs Data**

Six participating cities will provide inventory data on 1,000 high quality ash trees in order to quantify the saleable carbon. LGUs will preserve each tree and the associated environmental benefits therein by utilizing emamectin benzoate, a non-neonicitinoid insecticide on a three year cycle. ENRTF funding, revenues from carbon credit issuance/sale, and LGU financial match will fund this preservation for a total of six years. Monetization of avoided costs will support the additional 3 treatment cycles completed on a science-based recommendation of five year cycles.

**ENRTF BUDGET: $500,000 ($500,000 cash match through carbon credit issuance *and* $440k local cash match)**

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| **Outcome** | **Completion Date** |
| *Finalize recruiting six participating LGUs.* MOUs outline ENRTF $ commitment, $500k in carbon credit revenue and $440k in *local match ($220k for each treatment cycle)* | *12/2020* |
| *Enter into contractual agreements with LGUs as per carbon credit protocol* | *3/2021* |
| *Inventory 6,000 trees for size, GPS and condition. Preserve trees at an average $120/tree through two injection cycles* | *5/2021 and 5/2024* |

**Activity 3: Quantify Economic Value of Rainfall Interception/Stormwater Reduction**

A competitive RFP will secure an expert contractor to develop a calculator that estimates stormwater cost-avoidance resulting from ash tree preservation. The contractor will:

* Conduct a literature review of increased pollutant loading and erosion associated with increased stormwater runoff due to ash tree loss;
* Estimate costs of managing increased pollutant and runoff loads, and
* Obtain input from public/private stakeholders resulting in user-friendly calculator.

**ENRTF BUDGET: $50,000**

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| **Outcome** | **Completion Date** |
| *Calculator completed that quantifies cost-avoidance from ash tree preservation versus alternative stormwater management practices (e.g., pipe and pond)* | *12/2021* |
| *Regulatory consideration allowing LGUs to use calculated credits to meet permit requirements via MPCA stormwater manual and wiki* | *12/2022* |

**III. PROJECT PARTNERS:**

1. **Partners receiving ENRTF funding**

Six Minnesota LGUs will receive funding for ash preservation. MPCA will use ENRTF $ for staffing to manage project and develop stormwater components. City Forest Credits will receive funding for development of the carbon credit protocol. A consultant with Minnesota Retiree Technical Assistance Program (RETAP) will provide field assistance to LGUs. ENRTF funds will support an expert consultant to develop the stormwater calculator.

**B. Partners NOT receiving ENRTF funding**

Minnesota Shade Tree Advisory Committee (MNSTAC) and LMC’s Minnesota Cities Stormwater Coalition will both serve in an active advisory capacites.

**IV. LONG-TERM IMPLEMENTATION AND FUNDING:** A consensus-driven plan laying out the statewide use by Minnesota LGUs of carbon and stormwater credits for community trees will be developed. A key long-term implementation mechanism will be integrating the stormwater calculator into MPCA’s regulatory stormwater program. Detailed case studies of the inaugural six cities will also be developed. Additionally, the Minnesota Cities Stormwater Coalition will be integral to training, educating and supporting application statewide.

**V. TIME LINE REQUIREMENTS: A four-year project beginning in July 2020 and ending in June 2024.**