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Grant Title: Noelridge Park Reforestation Project, ReLeaf Cedar Rapids  
Requested Grant Amount: \$10,000 (\$5,000 per year over a span of two years)  
Period the Grant will cover: July 2021 - June 2023

Geographic Service Area: Noelridge Park, Cedar Rapids, IA  
Grant Category: Program or project based  
Focus area: Environment / Animals

**Executive Summary:**

This project aims to preserve the recently restored tree canopy coverage of Noelridge Park, located in Cedar Rapids, IA. Existing trees in the park were decimated following severe storm activity in August 2020, an event in which tens of thousands of trees throughout the community of Cedar Rapids were lost. Trees Forever, Inc. and the City of Cedar Rapids hope that this pilot project will inspire city residents to get involved with the wider reforestation initiative, and provide useful lessons and experience for future ReLeaf Cedar Rapids efforts.

## *Purpose of Funding*

Grant funding will be used to provide for the long-term survival of replanted trees in Noelridge Park following the August 2020 derecho (a storm with strong straight-line winds comparable to a hurricane). Prior to the derecho Cedar Rapids' tree landscape had an estimated structural value of \$112 million, and the city's urban forests were considered a defining feature of the community. The storm caused the destruction of an estimated 65 to 70 percent of trees in the Cedar Rapids-Marion area. Efforts for replacing this lost natural resource are ongoing under an initiative called ReLeaf Cedar Rapids, a partnership between Trees Forever, Inc. and the City of Cedar Rapids.

The Noelridge Park Reforestation Project is effectively a pilot program, serving as a starting point for a wider reforestation initiative across the whole city. While efforts for reforestation of the whole metropolitan area are still in the planning and consulting phases, Trees Forever believes it is vital to begin making significant progress and gain momentum as soon as possible. Noelridge Park was chosen as a starting point because of its high visibility to the population of Cedar Rapids. As we will establish shortly, the park has many visitors annually, has several public facilities, and is considered a jewel of the community in terms of landscape design. It is our hope that the effects of restoring this beautiful location will go far beyond one single public park by inspiring and informing wider restoration efforts across the entire local community.

## *Specific Needs and Problems*

Working under the ReLeaf Cedar Rapids initiative, Trees Forever has already delivered and begun planting 100 trees at Noelridge Park. These trees have been generously donated, transported, and planted through the efforts of local businesses and members of the community. Community Foundation grant funding will be applied towards the maintenance of this tree population, protecting the community's long-term investment in this area by minimizing losses among the newly planted trees. This is a need that the community will have difficulty in meeting on its own. In the aftermath of a natural disaster on the scale of the August 2020 derecho event, local governments in the area are faced with a monumental challenge in seeing to the economic and infrastructural recovery of the community. The City of Cedar Rapids sees the enormous value of rebuilding the natural ecological capital of urban forests destroyed during the storm, but financial resources for full disaster recovery remain strained nearly a year after the event.

The mortality of newly planted trees follows a pattern of exponential decay; in other words, the number of trees which survive beyond planting declines by a relatively fixed proportion of the existing population each year. It is commonly estimated that the typical annual mortality of street trees is between 3.5 and 5.1 percent, though this number can be higher during the first five years following a planting while the new trees are acclimating to their environment. Consequently, the first few years following a new planting will see the highest losses in terms of the absolute number of trees. However, this mortality can be significantly affected by a number of factors, such as tree nursery production methods, expertise of the planting organization, site environmental factors, and routine care and maintenance. To minimize losses among the recently planted tree population, grant funding will be applied towards tree maintenance costs such as pruning, pest and disease control, mulching, infrastructure repair, and irrigation, as well as the removal and possible replacement of dead or diseased trees which may adversely affect the remaining population.

## *Quantification of Needs*

To address the aforementioned needs, Trees Forever is requesting funding solely to provide equipment and supplies necessary for the care of the newly planted tree population at Noelridge Park. Because Noelridge Park is a public facility operated by the City of Cedar Rapids, the city has agreed to take financial responsibility for the staffing needs, fringe benefits, and any necessary staff training required for the ongoing care of the tree population. The unique challenge faced at the present time is not a lack of organizational expertise (these tasks fall within the existing responsibilities of the Parks and Recreation department), but rather the sheer scale of new tree planting efforts and the consequent spike in the cost associated with minimizing losses among trees. This maintenance effort will be crucial in making the most efficient use of organizational planting resources. Fewer trees lost during the first two years after planting means more trees that survive long enough to provide significant public benefits, and fewer resources wasted on removing newly planted trees.

Tree maintenance costs vary according to the size of the tree and the amount of time since the tree has been planted. As there is no feasible way to predict in advance exactly which planted tree will require which specific maintenance activities above and beyond basic care, we are basing our budgetary estimates on average costs per tree from established literature on the subject. Because Noelridge Park is a public park with abundant space for tree canopies and root systems, most of the trees planted fall into the “large” category of trees. According to the USDA Midwest Community Tree Guide, large trees planted within the last five years are estimated to cost between \$56.29 and \$83.33 annually (per tree) to maintain. To err on the side of caution, and given that we anticipate there may be unexpected challenges in undertaking a planting initiative on the scale of the entire Cedar Rapids Metropolitan Area in the wake of a natural disaster, we have budgeted for an annual average cost of \$100 per tree, for a total annual project cost of \$10,000 (based on 100 trees planted within the park) over the two-year grant time period. For more specific details on the proposed timeline and expenses, please refer to the Activity Timeline and Budget Narrative sections of this application document.

## *Target Population and Geographic Area of Service*

In the short term, the geographic area served by this project is Noelridge Park and the surrounding neighborhood of the same name. Noelridge Park itself has an area of 100 acres and is a jewel of the local community, as evidenced by the national awards it has won over multiple years in recognition of its landscape design and gardens. The park provides a number of amenities to the surrounding neighborhood, including a walking trail, a playground, a greenhouse, and an aquatic center. The population of the immediate neighborhood is estimated at 3,728. However, this figure alone does not account for the full population served by the program; Noelridge Park is estimated to receive at least 10,000 visitors per year, and it can be reasonably assumed that this will be the minimum population impacted by the project. It should be noted here that park attendance has likely been affected by the ongoing COVID-19 pandemic; however, updated usage statistics for the park prior to 2020 are not presently available.

In the long term, the geographic area and population served by the Noelridge Park Reforestation Project is the entire Cedar Rapids Metropolitan Statistical Area being served by the ReLeaf Cedar Rapids initiative. This Metropolitan Statistical Area (MSA) spans cities and towns in Benton, Jones, and Linn counties (located in eastern Iowa), and has an estimated population of 262,421. As previously mentioned, the Noelridge Park Reforestation Project can be considered a pilot program for the entire ReLeaf Cedar Rapids initiative. The aim is to raise public awareness of – and support for – local

reforestation efforts through high-visibility small-scale projects, and to serve as a role model and learning experience for future ReLeaf Cedar Rapids projects.

### *Measurable Objectives*

Given that the planting effort for Noelridge Park has already been completed, the measurable outcomes for our project are tree health and mortality. Over the lifespan of the Community Foundation grant Trees Forever intends to evaluate the Noelridge site once every six months to track the proportion of recently planted trees that remain on the site (and have not been removed due to disease or death). Our target is to keep annual mortality of the tree population under 5%. Additionally, because tree health is a major determinant of the quantity and quality of benefits provided by living trees to the community, certified arborists working for the Cedar Rapids Parks and Recreation Department will visit the site every six months to evaluate the overall condition of the tree population using the standard International Society of Arborists (ISA) Basic Tree Risk Assessment Form. This detailed risk assessment includes a holistic (albeit somewhat subjective) evaluation of tree condition using a simple ranked category scale, where trees are rated as being in “poor”, “fair”, or “good” condition. Our target is to keep at least 85 percent of the overall park tree population (not including any that have been removed) in “fair” or “good” condition.

### *Activity Timeline*

The following tree maintenance activities will be performed to maximize tree health and minimize mortality (and thus the costs associated with removal and replanting), in accordance with the guidance established by the USDA Tree Owner’s Manual.

<b>Type of Tree Care</b>	<b>Description/Justification</b>	<b>Timeline of Activity</b>
Watering	Adequate watering is crucial to a tree’s survival, especially within the first three years of planting while the tree is under the most physiological stress.	Weekly check by Cedar Rapids Parks and Recreation staff, water added if required.
Mulch application	According to some experts, the proper application of mulch can be the single best thing to do to ensure a tree’s survival after planting. It increases growth rates, adds nutrients to the soil, and deters weeds (which compete for nutrients).	Evaluated and applied where necessary March 2022 and 2023.
Trunk protection application	Plastic guards applied surrounding the trunk, used to protect the thin bark of a young tree from damage caused by animals and landscaping equipment.	Applied where arborists deem necessary September 2021; reevaluated September 2022 and removed in cases where arborists deem it appropriate.
Staking	Not always required, but in specific cases it can prevent rot	Checked and applied/adjusted where appropriate September

	and promote root system development.	2021, March 2022, September 2022; all stakes removed March 2023.
Root collar cleaning	Overly deep planting of trees can cause root suffocation or keep root collars moist (which promotes rot and disease).	Root collars checked and cleaned March 2022 and 2023.
Disease inspection and treatment	Necessary to detect and prevent mass infection of tree population from an insect infestation or other transmittable disease.	Checked every six months as part of condition check (see below), treatments applied or trees removed as required during subsequent month.
Pruning	Not typically required in the first two years following planting, but can be necessary to remove dead branches or extra leaders.	Performed as arborists deem necessary December 2022.
Tree removal	The goal of this project is to minimize the need for tree removal and replanting; however, dead or diseased trees can pose risks to other trees and to park visitors.	Performed as arborists deem necessary.
Safety check	Necessary to ensure the safety of park visitors (i.e. prevent dead branches from falling and damaging people and property).	Checked every six months as part of condition check (see below), and following any severe weather events
Condition check	Monitors the success of the tree maintenance program; sick or dead trees can be noted and later removed to protect other trees or avoid draining resources.	Evaluated July 2021, December 2021, July 2022, December 2022

### *Community Partners*

Trees Forever, Inc. is partnering with the City of Cedar Rapids for the duration of the ReLeaf Cedar Rapids Initiative.

### *Organizational Experience*

Headquartered out of Marion, Iowa, Trees Forever has had one overarching mission since we were established in 1989: to plant and care for trees and the environment by empowering people, building community, and promoting stewardship. We have provided this service through a variety of avenues. We advocate at the local, state, and federal levels for trees and forests, engaging with civic leaders and

elected officials. We also routinely partner with rural landowners to work towards pollinator habitat conservation, watershed preservation and management, and sustainable agroforestry practices (the intentional integration of trees and shrubs into traditional crop and livestock enterprises). We promote educational materials for rural and urban communities, both for adults and for children, to help the public understand the importance of our trees and forests to Midwestern communities. Finally, we lead planting efforts like the ReLeaf Cedar Rapids initiative – each year we work with an average of over 7,000 volunteers, and to date our efforts have resulted in the planting of more than 3 million trees and shrubs throughout Iowa and Illinois.

### *Grant Relationship to Mission and Goals*

The Community Fund grant will aid Trees Forever in healing a struggling Midwestern community from the effects of a devastating natural disaster through ecological recovery and beautification. In helping us to protect our investment into Iowa's urban forests, this funding will aid Trees Forever in our mission to care for our trees and natural environment by empowering people and building community. It will also secure the way for a larger and more ambitious municipal project that will affect the lives of hundreds of thousands of Iowans for decades to come.

### *Partial Funding Viability*

While full-scale funding of the Noelridge Park Reforestation Project would be most effective at ensuring the long-term success of the pilot program and the ReLeaf Cedar Rapids initiative as a whole, partial funding of the requested amount would still be invaluable to our success. The proposed budget assumes a “worst case scenario” for expenses in a community recovering from disaster, and therefore incorporates a significant margin of error in estimating average costs per tree. Additionally, tree condition inspections and less crucial maintenance activities (i.e. trunk protection and staking) could be scaled back to accommodate fewer financial resources if necessary.

## Budget Narrative

Grant Title: Noelridge Park Reforestation Project, ReLeaf Cedar Rapids

Start date: July 1, 2021

End date: June 30, 2023

Using the USDA Midwest Community Tree Guide as a reference, and based on the fact that the majority of trees already planted in the park fall into the “large” size classification, we have estimated an average annual cost per tree of between \$56.29 and \$83.33. This cost estimate covers all of the activities described in the Activity Timeline section, and allows for some margin of error to cover the possible challenges associated with natural disaster recovery (i.e. debris removal).

Budget	Year 1			Year 2		
	Total	Grant	Match	Total	Grant	Match
Employee Compensation			Responsibility of Cedar Rapids Parks and Recreation			Responsibility of Cedar Rapids Parks and Recreation
Fringe Benefits			Responsibility of Cedar Rapids Parks and Recreation			Responsibility of Cedar Rapids Parks and Recreation
Consultant Fees	N/A			N/A		
Travel Costs	N/A			N/A		
Equipment and Supply Costs	\$10,000	\$5,000	\$5,000 (Trees Forever, Inc.)	\$10,000	\$5,000	\$5,000 (Trees Forever, Inc.)
Training Costs			Responsibility of Cedar Rapids Parks and Recreation			Responsibility of Cedar Rapids Parks and Recreation
Printing/ copying costs	N/A			N/A		
Phone/fax/ internet costs	N/A			N/A		
Rent and utilities costs	N/A			N/A		
Other costs	N/A			N/A		
<b>Total</b>	<b>\$10,000</b>	<b>\$5,000</b>	<b>\$5,000</b>	<b>\$10,000</b>	<b>\$5,000</b>	<b>\$5,000</b>