

PROJECT APPLICATION FORM – 2015

Applicant: Town of Acton Natural Resources Department **Submission Date:** 11-17-2014

Applicant's Address:

Town Hall, 472 Main Street, Acton, MA 01720

Phone Number: 978-929-6632

E-mail: nr@acton-ma.gov

Purpose: (Please select all that apply)

- Open Space
- Community Housing
- Historic Preservation
- Recreation

Town Committee (if applicable): Acton Conservation Commission _____

Project Name: Acton Arboretum Fern Boardwalk Replacement and Tree Removal

Project Location/Address: Acton Arboretum, 2 Taylor Road _____

Amount Requested: \$24,952.19 _____

Estimated Date for Commencement of Project: December, 2015

Estimated Date for Completion of Project: December, 2016

Project Summary:

- I.** Hire professional carpenter to rebuild Fern Boardwalk. **Part of CPA Grant funding \$23,102.19**
- II.** Hire tree company to remove one large, dying, red maple (*Acer rubrum*) next to boardwalk; and 13 black walnuts along wildflower trail. **Part of CPA Grant funding \$2,850.00.**

Community leverage: Friends of the Acton Arboretum donating **\$1,000.00**; and Axe Bros Tree Service is discounting/donating **\$500** to the Arboretum. Natural Resources will contribute man hours and truck to remove old lumber from site, transport to transfer station. Natural Resources will have sawmill demonstration; Mass. DCR to cut up black walnut wood.

Total Leverage: \$1,000.00. Total Grant request: \$24,952.19.

Description Part I.

The fern boardwalk is the last of three, deteriorating, wooden boardwalks to be replaced and made ADA accessible in the Arboretum in three years with CPA fund requests, each boardwalk being over 25 years old. Current fern boardwalk conditions: rot in vertical columns; decayed concrete footings; rotten and patched railings; sagging floorboards; uneven floorboards. It was originally built by a professional carpenter and volunteers. Some materials were donated, some were purchased. This boardwalk is built over the designated "Mary's Brook;" so named in honor of Mary Michelman, community champion for clean water, who died of cancer in 2010. The existing plaque will be placed on new boardwalk.



Existing Conditions of Fern Boardwalk



Mary's Brook Plaque

Description of Part II.

(a) There is a large, multi-trunked red maple (*Acer rubrum*) tree next to the boardwalk that is dying and may fall. We want to remove it so it does not damage the new boardwalk when it is rebuilt.

(b) There are 13 black walnut trees in the vicinity that we want to remove to improve forest diversity. We feel this is in keeping with the Acton Arboretum Master Plan, Urban Forestry Grant, varied topography and diverse habitats of the land. This project is supported by the Friends of the Acton Arboretum. In 1994, the Conservation Commission requested that the Friends of the Arboretum help develop a Master Plan for the Arboretum. An Urban Forestry grant of \$2,500 was received in 1997 to fund both the mapping of the area and the first stages of the Master Plan. This was one of 32 urban forestry projects supported in 1997 by the Department of Environmental Management's Urban Forestry Program. Federal funds totaling \$185,000 from the USDA Forest Service are utilized to assist communities in planning for improvements and engaging residents in tree care efforts.

The Friends of the Acton Arboretum was organized "to raise and donate funds, materials, and services to the Town of Acton for the development and maintenance of the Acton Arboretum; to educate the community about the unique environmental, horticultural, geological, and historical qualities of the Arboretum property, about the process of wetland and field succession, and in an era of decreasing public funds and natural resources, about conservative, effective horticultural practice..." - Arboretum Master Plan

The Friends of the Arboretum received the George E. Stone Award from the Massachusetts Association of Tree Wardens and Foresters. The award is presented annually in recognition of outstanding community involvement in Urban Forestry. Removing the black walnuts will improve forest diversity and allow volunteers to plant more wildflowers along the trail, as well as a healthy diversity of understory plants. Tenets of urban forestry state: "Function, the dynamic operation of the forest, includes biochemical cycles, gas exchange, primary productivity, competition, succession, and regeneration. In urban environments, forest functions are frequently related to the human environment. Trees are usually selected, planted, trimmed, and nurtured by people, often with specific intentions, as when a tree is planted in a front yard to shade the driveway and frame the residence. The functional benefits provided by this tree depend on structural attributes, such as species and location, as well as management activities that influence its growth, crown dimensions, and health." (McPherson E.G. (2006). [Urban Forestry in North America](#). in *Renewable Resources Journal*, Autumn 2006)

It is with these principles in mind that we are choosing to develop a 300' area along the wildflower trail, to remove the 13 black walnuts to improve diversity and soil health. Black walnuts deposit a phytotoxin called juglone into the soil via its roots, leaves and nuts. When the area is re-developed, after the black walnuts are removed, care will be taken to choose understory plantings that are able to grow in the presence of juglone.

New plantings will include: *Amelanchier*, *Halesia*, *Styrax*, *Hamamelis* (sps), *Cornus kusa*, *Acer* (sps), *Cercis canadensis*, *Fothergilla* and *Viburnum*. There are literally hundreds of Black walnuts scattered throughout the Arboretum property; so there is no concern that this species will be under represented. The larger concern is their creation of a monoculture, and subsequent prohibition of a varied plant community, due to the ubiquitous presence of juglone. This project speaks directly to the benefits of urban forestry and public education about forest diversity.

The **Mass. Department of Conservation and Recreation** will bring their portable sawmill to the Arboretum in spring, 2016 and will saw black walnut boards out of the felled trees in an educational, public demonstration. Some of the lumber will be utilized to benefit future conservation land projects.



Dying Red Maple



Approach to boardwalk



Area to remove black walnuts and replant

Quote from Axe Bros Tree Service:

From: axebros [axebros@verizon.net] Sent: Thu 10/16/2014 11:47 AM
To: Bettina Abe
Cc:
Subject: Walnut removal at Arboretum

Bettina, we took another look at the walnut trees in the arboretum today so we could get you a quote. It looks like some of the ribbons on the smaller trees along the path have been removed, but we remember what was originally marked.

To perform the work there are some trees and bushes on the path into the proposed clearing that would need to be pruned to make room for our equipment.

If the town was to perform the pruning, the clearing would cost 2450.00. If we were to perform the pruning the clearing would cost 2,700.00. Either way \$500.00 of the bill would be considered an in kind donation to the Arboretum, making the out of pocket cost \$1,950.00 or \$2,200.0

To fell the dying maple further along the trail would cost 400.00. We would be using our bucket truck to do this so part of a stone wall would need to be moved to make access. The town would be responsible for moving the wall. All brush and wood would be left in place but we would keep everything out of the brook.

Feel free to contact us if you have any questions or need clarification.

Total would be \$ 2350.00 or \$ 2600.00 for your budgeting purposes.

Charles & Jacob Abraham
Axe brothers Tree Service
Acton, MA
978-263-9961

Fred's Construction Services

2 Fairfield Street
Maynard Ma 01754

Estimate

Date	Estimate #
10/3/2014	2013

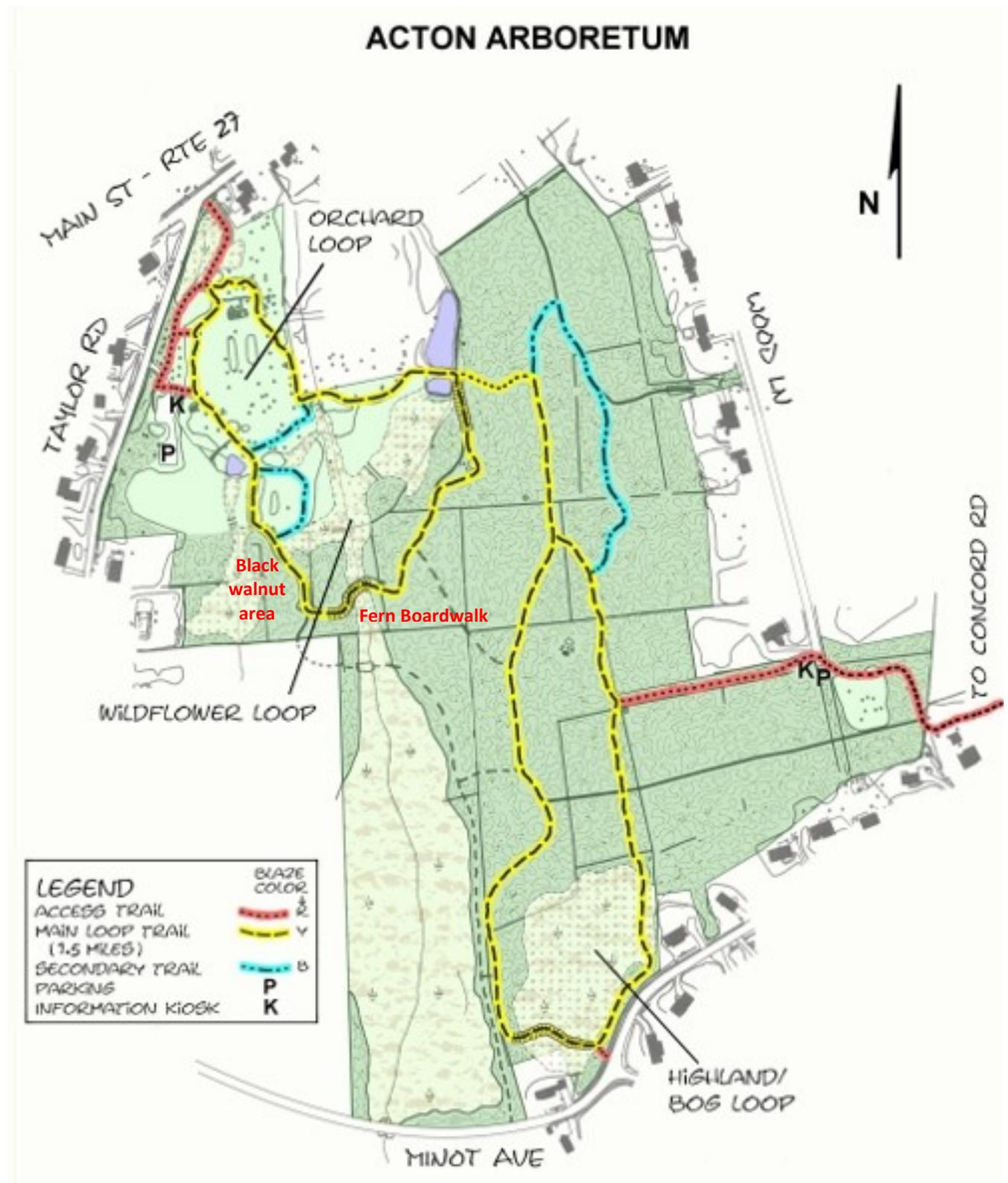
Name / Address
Town Of Acton 472 Main Street Acton Ma 01720

Terms	Project
Deposit to Start	-Arboretum Walkway...

Description	Total
Framing materials / for 150 +- lineal feet of walkway using all pressure treated lumber.	12,977.19
Framing Labor / Frame new boardwalk using existing footings and adding new where needed.	10,125.00
Demo and removal and disposal of existing walkway to be done by others.	0.00
ESTIMATE IS ASSUMING WE CAN KEEP THE SLOPE LESS THAN 5% THUS AVOIDING THE NEED FOR HANDRAILS. IF HANDRAILS ARE REQUIRED THEY WILL BE PRICED SEPARATELY.	
10/03/14	
If you have any questions call me @ 508 527-9850. Thank You!	Total \$23,102.19

E-mail	Web Site
Fred.nwd@verizon.net	www.Fredsconstructionservices.com

ACTON ARBORETUM



2015 Fern Boardwalk Project Acton Arboretum
--

Item	Cost	Funding Leverage	Amount
Boardwalk Construction	\$23,102.19	Friends of the Acton Arboretum	\$500
Tree Work	\$2,850	Axe Bros Donation	\$500
Subtotal	\$25,952.19	Subtotal	\$1,000.00
Summary			
Costs	\$25,952.19		
Leveraged Funds	(\$1,000.00)		
Total Grant Request	\$24,952.19		