Invasive Plant Management Plan

Common Ground Land Trust
Greenville Lake

Leicester, Massachusetts

Land Stewardship, Inc.
P.O. Box 511
Turners Falls, MA 01376

413-863-6333
www.landstewardshipinc.com

LAND STEWARDSHIP, INC.

Invasive plant management activities are planned for managing Japanese knotweed at Greenville Lake in Leicester, MA. This Invasive Plant Management Plan (IPMP) lays out the treatment schedule designed to manage Japanese knotweed in the project area.

Site Conditions

There are 0.77 acres of Japanese knotweed at the Greenville Lake site. LSI project manager Lucy Gross conducted a site visit with Jan Parke on March 29th, 2021 to collect the information that informs this proposal. A locus map for the project site may be found in Figure 1. A map of jurisdictional resource areas relative to the treatment area may be found in Figure 2. A map of site may be found in Figure 3.

Table 1. Invasive species to be managed at Greenville Lake, Leicester, MA

Common Name	Scientific Name	Notes
Herbaceous Species		
Japanese knotweed	*Polygonum japonica*	Suitable for foliar application, hand wiping and stem injection depending on size class, density, and proximity to wetlands.

Project Goals

The goal of this project is to control populations of Japanese knotweed that are growing in proximity to Greenville Lake. Dense infestations of knotweed result in reduction of plant and animal diversity. Dense knotweed growth is poorly suited to preventing soil erosion, and can contribute in increased sedimentation input to Lake Greenville. Elimination of knotweed and the resulting regeneration of native plant species will benefit both biodiversity in the area, as well as protecting the water quality of the lake.

Land Stewardship, Inc.
PO Box 511
Turners Falls, Massachusetts 01376

413-863-6333
info@landstewardshipinc.com
www.landstewardshipinc.com

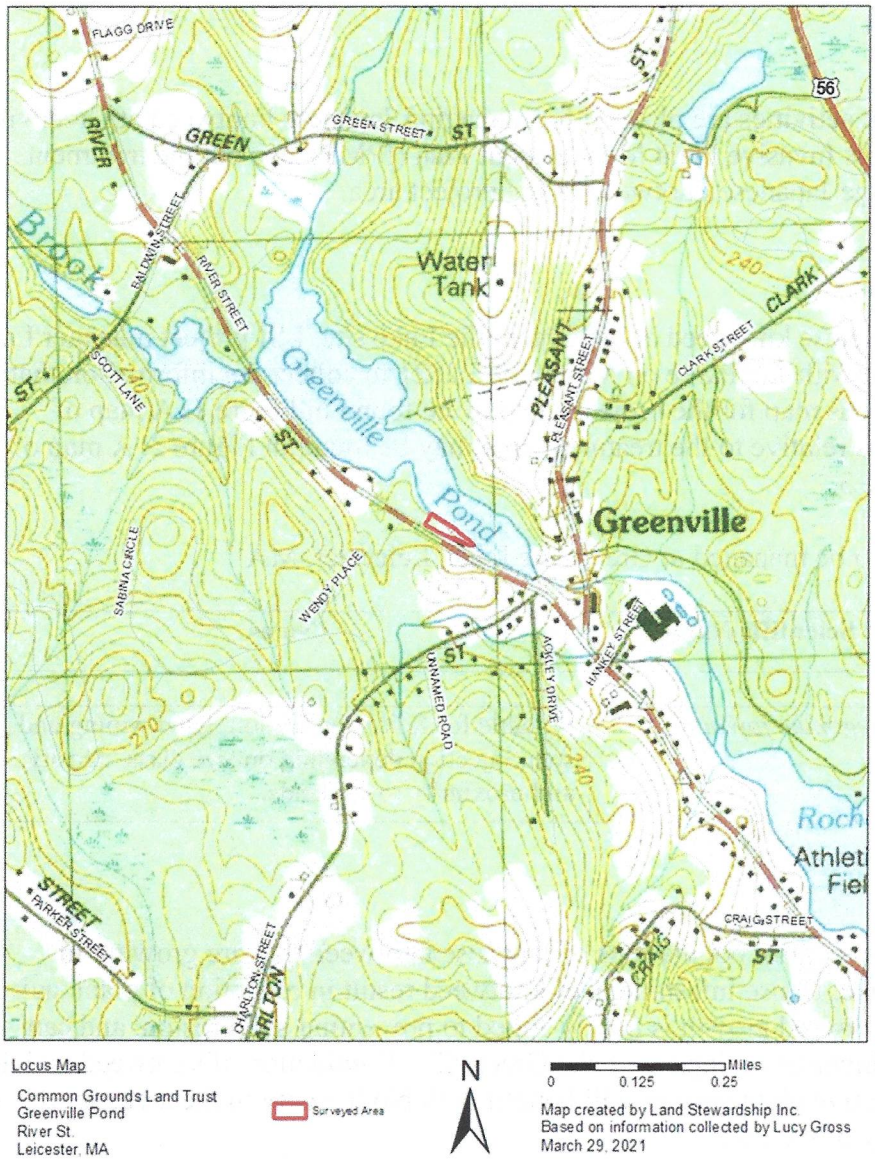


Figure 1. Greenville Lake locus map, Leicester, MA

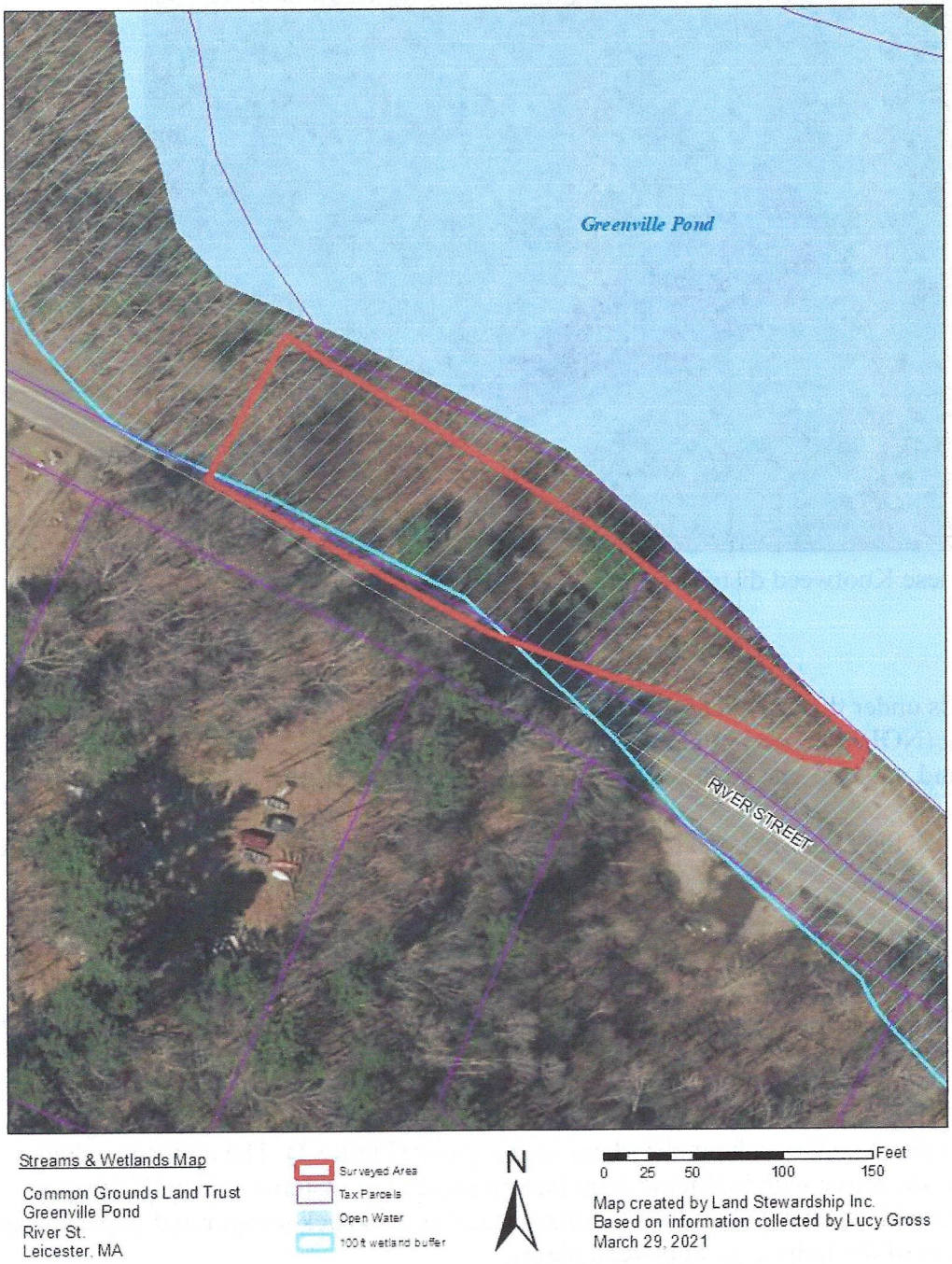


Figure 2. Japanese knotweed treatment area, Greenville Lake, Leicester, MA

Figure 3. Japanese Knotweed distribution at Greenville Lake, Leicester, MA

Permitting

This project falls under the jurisdiction of the Wetlands Protection Act (WPA). Therefore, a Notice of Intent (NOI) will need to be filed with the Leicester Conservation Commission (the Commission) and with the Massachusetts Department of Environmental Protection (DEP).

We propose to use the following methods for invasive plant management at the Greenville Lake site:

Targeted Herbicide Application Methods

We will use targeted methods when appropriate to ensure that herbicide is applied carefully only to the Japanese knotweed. A brief description of the targeted methods follows.

1. Hand wiping: To hand wipe knotweed plants, an herbicide applicator wears a chemical resistant glove underneath an absorbent cotton glove (Figure 4). The applicator then moistens the glove with herbicide from hand-pumped low volume backpack sprayer equipped with specialized ultra-low-volume nozzles backpack sprayer and wipes the stem and leaves of the individual knotweed plants.

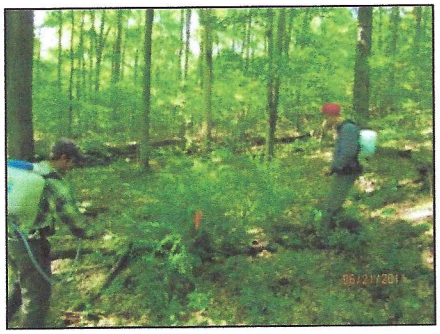
Figure 4. Hand wiping technique.

2. Stem injection: Using the JK Injection System®, the technician injects each individual knotweed cane with herbicide (Figure 5).

Figure 5. Stem injection of Japanese knotweed

Foliar spray application (backpack sprayers)

Foliar applications will be conducted for invasive shrubs < 5' tall and/or with stems < 1" diameter using hand-pumped backpack sprayers (Figure 4). Leaves should be uniformly wetted, but not to the point of runoff. A 2% herbicide solution will be used (volume/volume) along with a non-ionic surfactant at 0.25% solution (v/v). Treated invasive plants will be left to degrade in place over time and will not be cut or mowed.

A. 

B. 

Figure 6. A. Crew members conducting a foliar spray herbicide application with backpack sprayers.
B. The result of a foliar spray herbicide application on invasive vine species 3 weeks after treatment.

Herbicide Selection and Environmental Conditions

All applications will be conducted with the wetland approved glyphosate-based herbicide *Rodeo*® (EPA Reg. No. 62719-324) along with a non-ionic wetland surfactant and indicator dye. This herbicide formulation is not volatile. There should be no rain for a 12-hour period after application and several hours prior to any herbicide application. A wind meter will be used to measure wind speed and wind direction. Wind speeds should be less than 10 mph and ideally in the range of 2-5 mph to avoid non-target damage resulting from a temperature inversion. Temperature should be less than 95 degrees Fahrenheit to avoid aerating the herbicide mix.

Treatment Schedule

2021

- Permitting to be completed by Common Ground Land Trust.
- Task 1. Mow (June). Dead knotweed plant material will be mowed with a walk behind mower and brush clearing saws. The material with be mulched and left onsite.
- Task 2. Herbicide treatment (Mid-August/Late September). Japanese knotweed will be foliar sprayed with specialized backpack sprayers fitted with ultra-low volume nozzles for targeted application procedure. Individual Japanese knotweed stems that occur in close proximity to structures will be injected with JK Injection System® (Figure 2). After discussion with Jan Parke, the Japanese knotweed will be the only invasive species we treat on this site.

2022

- Task 3. Follow-up herbicide treatment (June). Follow-up herbicide application to resurgent knotweed plants.
- Task 4. Follow-up herbicide treatment (September). Follow-up herbicide application to resurgent knotweed plants.

2023

- Task 5. Follow-up herbicide application (June).
- Task 6. Follow-up herbicide application (September).

Success Criteria

Japanese Knotweed Management: 3 Year Program

Objective: 80% knotweed control resulting from 2021 initial foliar treatment and targeted methods; 90% resulting from 2022 follow-up treatments; and 95% resulting from 2023 follow-up treatments.

Knotweed can be managed/controlled, but not eradicated within the 3-year timeline presented here. The knotweed plants will persist in the treatment area as stunted or otherwise degraded-appearing specimens for several more years. It is very important to continue careful and thorough chemical treatment until the knotweed stops reappearing. Although we cannot guarantee complete eradication of the knotweed, we are confident that 99% control can be maintained with annual maintenance and stewardship which may be estimated at $400/year. We can continue this work. Alternatively, we can train you to continue the work, or you may hire a different contractor to continue the work.

We will establish several photo monitoring plots within the project area each area and will monitor the results at the end of the project. Our work is guaranteed to meet the stated success criteria.

Quality Assurance and Reporting

Lucy Gross will serve as project manager for your project and will be your point of contact. She will inspect all crew work firsthand to ensure that the treatment was well executed, thorough and effective. She will keep you informed of our schedule and progress. Our crew leaders use smart phones to submit daily work logs with photos and GPS to demonstrate areas completed. Upon completion of each task, we will prepare a land management record which will summarize work completed each day (crew, weather, hours worked, herbicide used, herbicide amount and notes).

Maintenance & Stewardship

Successful invasive plant management requires a long-term, ongoing commitment to protect your investment in this project. Invasive plants can be reintroduced to the project area by wind, birds and other animals. In addition, residual seed bank sources can continue to produce seedlings for several years after the mature plants have been removed from a site. To keep invasive plants out of the area it will be necessary to monitor the area by scouting for new patches and individual plants even after the treatment. Options for managing invasive plants after the initial two years usually include hand-pulling, spot herbicide spraying, and/or repeated cutting. Arrangements can be made for continuous stewardship of the property on an annual basis. LSI can help with planning for invasive plant stewardship treatments.

However, successful long-term maintenance is ultimately the responsibility of the landowner who must actively manage the property to take appropriate preventative management actions.

PROPOSED PROJECT WORK TO BE DONE
BY COMMON GROUND LAND TRUST
ON GREENVILLE POND AND RIVER STREET
Parcel 43-A11

LETTERS CORRESPOND TO ATTACHED MAP OF PARCEL

A. Hand spraying of poison ivy on edge of parking area

B. "Use of lake at own risk", sign (required by insurance). Placed by the town and the land trust (Already ordered and printed by the Town of Leicester)

C. Building of approach steps to the lake. Using natural materials of wood, soil and grass. This is expanding and shoring up of natural shoreline stepping already in place and heavily used.

D. Picnic table anchored to a nearby tree or perhaps a deep earth screw

E. Removal of dead tree pieces and small broken dead birch trees (this needs to be done immediately to clear way for the cutting of the knotweed.)

F. Removal of invasive bittersweet vines from healthy trees. There are some very huge bittersweet vines which are weighing down large trees right at the road edge, which may be town trees. We will confer with the tree warden about this matter.

G. A sign will be erected at a future point along the parking area designating this as land trust property in this approximate area.

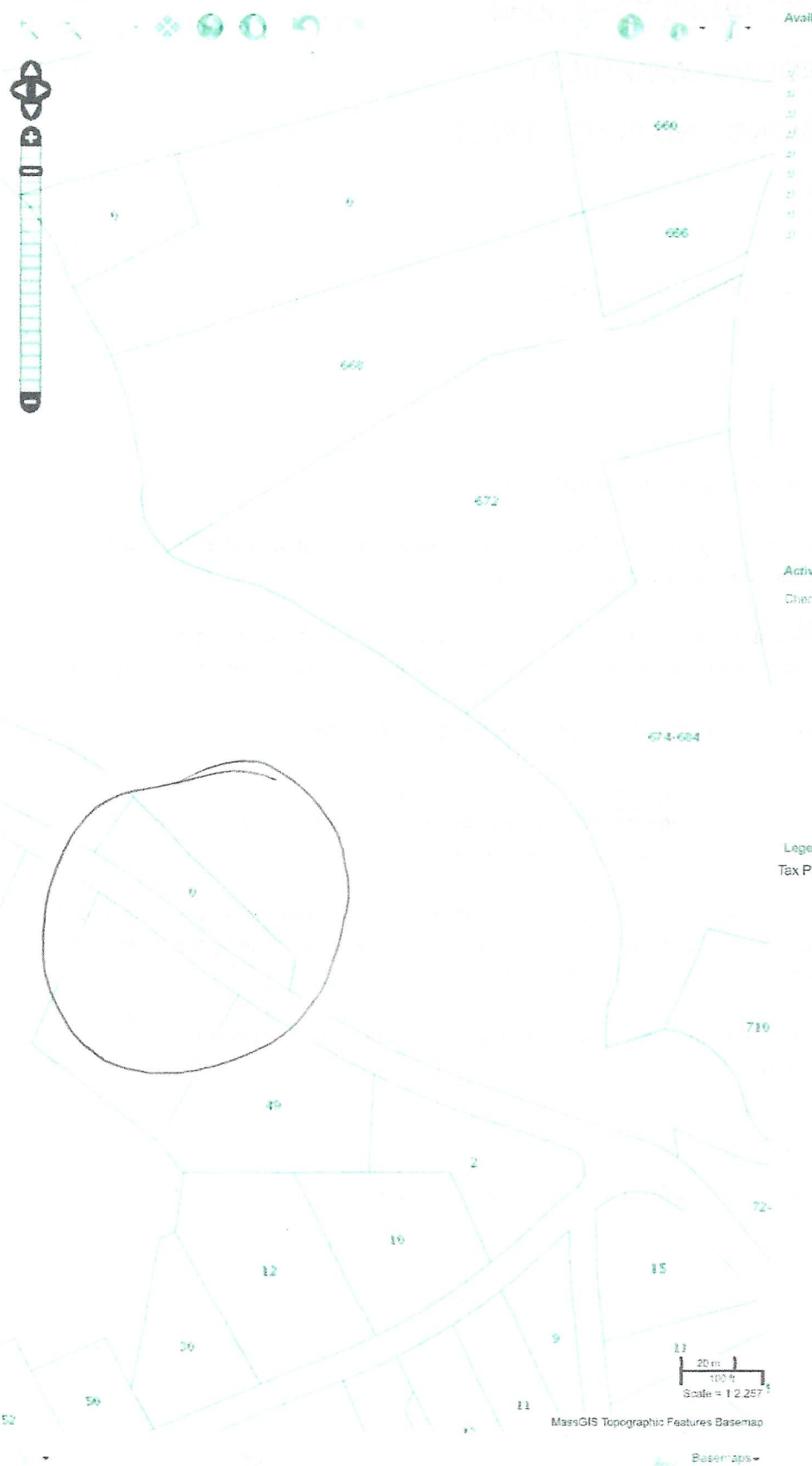
These are items to be executed by the land trust.

Some immediate, some this summer of 2021 and signs at a future date.

MuniMapper: Leicester, MA

Town of Leicester Web Site

Disclaimer



PROPOSED PROJECT WORK TO BE DONE
BY COMMON GROUND LAND TRUST
ON GREENVILLE POND AND RIVER STREET
Parcel 43-A11

LETTERS CORRESPOND TO ATTACHED MAP OF PARCEL

A. Hand spraying of poison ivy on edge of parking area

B. "Use of lake at own risk", sign (required by insurance). Placed by the town and the land trust (Already ordered and printed by the Town of Leicester)

C. Building of approach steps to the lake. Using natural materials of wood, soil and grass. This is expanding and shoring up of natural shoreline stepping already in place and heavily used.

D. Picnic table anchored to a nearby tree or perhaps a deep earth screw

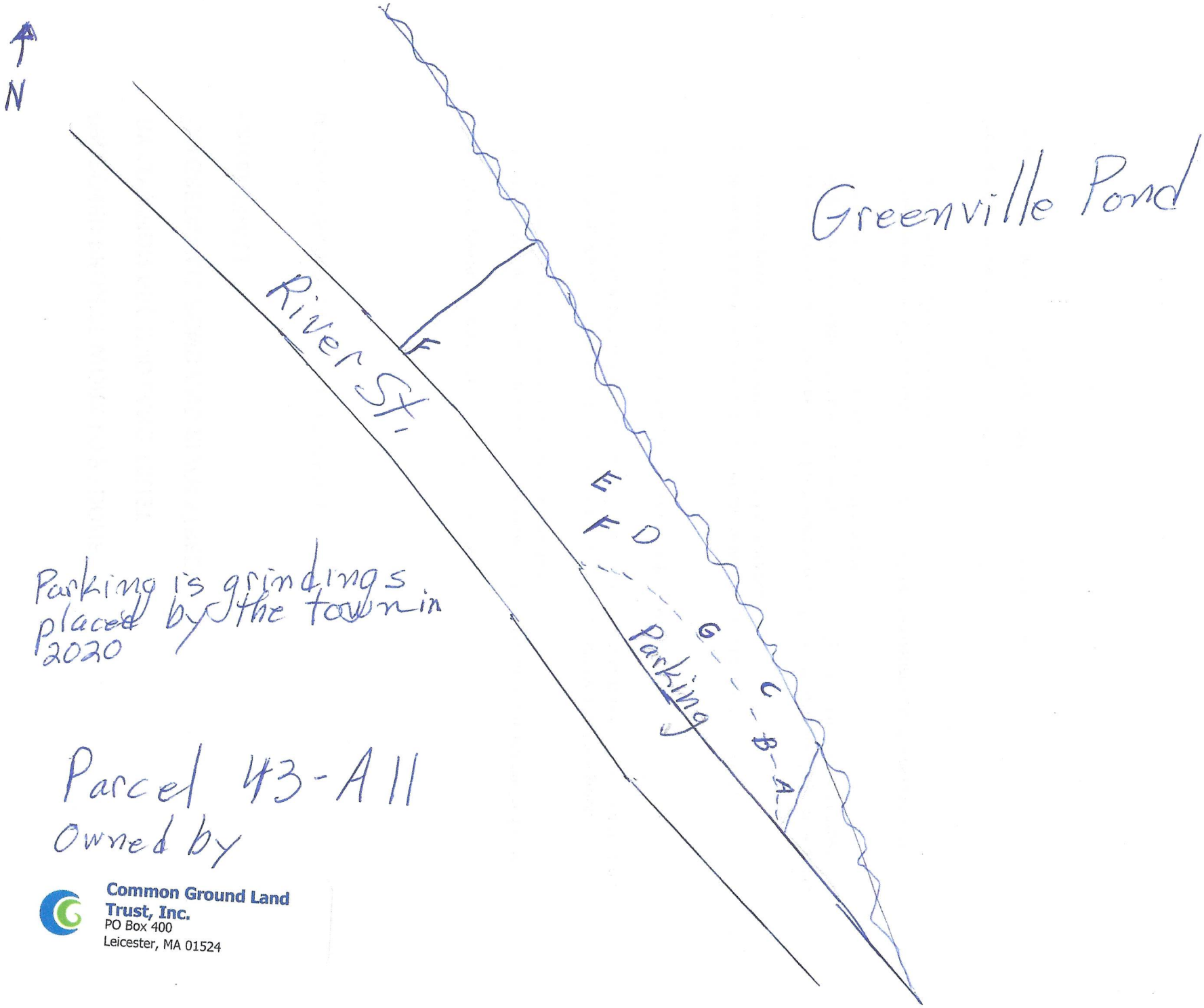
E. Removal of dead tree pieces and small broken dead birch trees (this needs to be done immediately to clear way for the cutting of the knotweed.)

F. Removal of invasive bittersweet vines from healthy trees. There are some very huge bittersweet vines which are weighing down large trees right at the road edge, which may be town trees. We will confer with the tree warden about this matter.

G. A sign will be erected at a future point along the parking area designating this as land trust property in this approximate area.

These are items to be executed by the land trust.

Some immediate, some this summer of 2021 and signs at a future date.



Parking is grindings placed by the town in 2020

Parcel 43-A11
Owned by

Common Ground Land Trust, Inc.
PO Box 400
Leicester, MA 01524

present grass steps Item C.

WALL OF JAPANESE KNOTWEED AT GREENVILLE POND