Community Preservation Committee
Littleton, Massachusetts

The CPC was established by Town Meeting in 2007. The CPC has the powers and responsibilities specified by Massachusetts General Law Chapter 44B, section 5(b), the Community Preservation Act.

Community Preservation Application for Funding

Date: 12-14-2023

Project Title: Cloverdale Phragmites Control

Name of Applicant: Amy Green, Conservation Agent

Name of Organization: Littleton Conservation Department

Address: Town Offices, 37 Shattuck Street, Littleton, MA 01460

Telephone: 978-540-2428 **Email:** agreen@littletonma.org

CPA Category (circle all that apply): **Open Space** **Historic Preservation** **Recreation** **Community Housing**

CPA Funding Requested: $ $27,300 **Total Project Cost:** $ 39,600

Please attach answers to the following questions. Include supporting materials as necessary.

1. **Project Description:** Please give a detailed project description, including specific objectives.
2. **Goals:** How does this project accomplish the goals of the Community Preservation Plan for Littleton? (See Guidelines for Project Submission for general criteria)
3. **Timeline**: What is the schedule for project implementation, including a timeline for all critical milestones? Will this be a multi-year project?
4. **Budget**: Please provide a full budget including the following information, as applicable. (NOTE: CPA funds may not be used for maintenance):
    a. Total amount of the project cost, with itemization of major components.
    b. Additional funding sources. Please include those that are available, committed, or under consideration.
    c. Describe the basis for your budget and the sources of information you used.

5. **Support:** Have the appropriate Town Boards and Commissions expressed support and/or approved the project? What is the nature and level of community support for this project?

Submit this form and accompanying materials to:

Community Preservation Committee
c/o Town Clerk Office
Town Offices
37 Shattuck Street
P.O. Box 1305
Littleton, MA 01460
978-540-2401
townclerk@littletonma.org

Please provide one paper copy as well as an electronic (pdf) file.

Cloverdale Phragmites Control
Community Preservation Application for Funding
Supplemental Information

1.0 PROJECT DESCRIPTION

Existing Conditions and Efforts to Date

Cloverdale Conservation Land (CCL) is approximately 27 acres and includes a central emergent marsh of approximately 12 acres. The attached figures show the project locus and conditions. The property consists of diverse wildlife habitats including a pond, wet meadows and upland, shrubs and trees, with significant habitat edge. Historically, CCL has been rich with wildlife including sightings of game species such as white-tailed deer, coyotes, beavers, and various waterfowl, in addition to an abundance of non-game wildlife such as otters, muskrats, ermine, bald eagles, great blue herons, barred owls, great-horned owls, spotted turtles, red-tailed hawks, and more. The numerous habitat types of CCL have immense value to all wildlife species, especially due to the location of the property itself in relation to surrounding land. CCL, which is amid developed areas, acts as a wildlife corridor between Cobb Memorial Forest (Littleton Conservation Land) to the South/Southeast and Westford's Richard Emmet Conservation Land and Mass Audubon's Nashoba Brook Sanctuary to the North. *Phragmites* in CCL threaten to displace wildlife species and restrict their range.

The property is a demonstration parcel for native pollinator gardens, has boardwalks popular with the public for wildlife viewing (with two of the boardwalk segments funded through CPC), and will have an ADA trail expected to be completed in 2024. The wet meadow forms the core of the property and consists of diverse vegetation. Multiple discrete patches of *Phragmites australis* have encroached the wet meadow and are threatening the habitat value. It is considered critical to control these patches now before the entire wet meadow and its habitat value is lost to *Phragmites*. Desired habitat is wet meadow free of *Phragmites* and flourished with native flora.

The Conservation Department was awarded a Cooperative Invasive Species Management Area (CISMA) grant to map the invasive species at Cloverdale, assess the threats and provide a recommended management plan. The results of the recommendations to control the *Phragmites* is provide in Attachment A. A total of approximately 1.5 acres of multiple patches of *Phragmites* were mapped. This effort also mapped other invasive species at CCL and which it is anticipated to be the target of future Weed Warrior training and volunteer invasive plant pulls.

Statement of Problem

Phragmites australis (common reed) is a non-native perennial grass that is particularly aggressive. It can grow in dense stands and reach heights of 18 feet. Most commonly it spreads by horizontal above-ground stolons and underground rhizomes. Stolons can grow dozens of feet annually with new plants sprouting at the nodes (joints) every few inches. Rhizomes can create thick underground mats up to 6 feet deep and that can extend up to 30 feet a year with new shoots sprouting all along the rhizome. *Phragmites* can also spread by seeds that form from July to September.

Phragmites can quickly outcompete and block native plant species with its height and dense mass which, particularly in winter when it is knocked down, can form a solid dense mat across the ground. It provides little to no food or shelter for wildlife and displaces native communities that would otherwise perform this function. It's dense monoculture impacts species from invertebrates to large mammals such as deer which often cannot even penetrate the stands. It can physically block waterways, and its decomposing biomass can raise the elevation of the wetland. The dense stems slow flows and can trap sediment, further building the elevation of the wetland. It's very dense biomass decreases the flood retention capabilities of the wetland. These stands also have visual impacts, obscuring views in the summer and present a mass of dead biomass in the winter. Each fall as it dies back it adds to the pile on dry vegetation that presents a fire danger. Recreationally, it blocks any use of the area from walking and bird watching to boating. The vegetation is tough and sharp and can cut your skin. Some birds may nest in its dense structure.

Specific to CCL, the *Phragmites* has been spread in various patches throughout the core wetland. If not addressed, these patches will continue to expand and join. These areas clearly are impacting and threatening the functions and values of the wetland, including present and future impacts to:

- Water flow from south to north
- Quality of the ponded area in the southeastern portion of CCL
- Wildlife passage
- Flood storage
- Biodiversity of both plants and animals

These characteristics support recognized functions and values as per the MA Wetlands Protection Act regulations, namely, flood control, storm damage prevention, prevention of pollution and protection of wildlife habitat. Control of the *Phragmites* would not only restore the existing

wetland, but would also remove the threat to the biodiversity of CCL. Elimination of the *Phragmites* would bring the degraded areas back to a natural habitat system; presumably emergent or scrub shrub vegetation. It will also protect the aesthetics of the area and the sweeping views from the boardwalk.

Proposed Work

Proposed removal of *Phragmites australis* consists of a prep cut with brush saws in Late Winter/Early Spring 2024, followed by a three year foliar treatment plan, as shown in Table 1. Treatment and monitoring will be done by Land Stewardship Inc. (LSI) and overseen by LSI President and Senior Restoration Ecologist Chris Polatin. Mr. Polatin is a Certified Ecological Restoration Practitioner by the Society for Ecological Restoration, and he as well as his staff maintain pesticide applicator licenses. The Littleton Conservation Commission is a partner and proactive Host Organization of Sudbury Valley Trustees' Weed Warrior Program. Throughout spring, summer, and autumn, members of the public are taught how to identify and effectively manage common invasive plant species in the area. Educational signage about invasive species and the Phragmites treatment at CCL will be posted in the kiosk at the parking lot during the duration of the Phragmites treatment. This educational material will reach a diverse number of users, and an ADA trail will bring everyone through the wet meadow on the existing boardwalk.

2.0 GOALS

The objective will be 80% Phragmites control resulting from the 2024 treatments; 90% resulting from the 2025 follow-up methods; and 95% from the 2026 follow up treatment. Each visit will need significantly less time and application. Results will be monitored and reported by the consultant. Long term monitoring and management is recommended as the Phragmites can recover and recolonize from remnant plants or rhizomes. Given the presence of wetland plants in the stand, all along the edges, and within the seed bank it is expected that native plants will quickly re-establish themselves. The project will preserve Littleton's Open Space at Cloverdale and protect its biodiversity and wetland functions and values. If the project does not go forward, the Cloverdale ecosystem will continue to degrade and the enjoyment of the trails and boardwalk will be at risk.

3.0 TIMELINE

The proposed project will be three years. Table 1 shows the yearly tasks and the associated costs. Bolded Task 3-8 are the tasks for which CPC funding is being requested.

Table 1 Timeline and Costs

Task 0	Assess issue and develop management plan	$1,500	Completed
Task 1	Permitting support	$600	Completed
Task 2	Prep cut	$10,200	
Task 3	**Summer 2024 Foliar Treatment**	**$11,400**	
Task 4	**Fall 2024**	**$3,900**	
Task 5	**Summer 2025**	**$3,000**	
Task 6	**Fall 2025**	**$2,400**	
Task 7	**Summer 2026**	**$2,400**	
Task 8	**Fall 2026**	**$1,800**	
Task 8	**Late Fall 2026 Final Report**	**$2,400**	
TOTAL		**$39,600**	

4.0 BUDGET

The budget for requested Tasks 3-8 are shown in Table 1. The contractor scope and cost is provided in Attachment B. This request is for approximately 70% of the overall project. Staff time, especially for educational efforts, are not included. Tasks 0 and 1 are completed and Task 2 (which will take place in FY24) is/will be funded by a combination of a MassWildlife Habitat Management Grant, LELWD Community Grant and Conservation land management funds. Should future years of control be required to keep the Phragmites under control, this is expected to come from the Conservation land management funds.

5.0 SUPPORT

The Conservation Commission fully supports this project, and has issued the Order of Conditions for the work. The Littleton Conservation Trust and Land Stewards have also stated their support for this much needed project. The success of the Weed Warriors program demonstrates our resident's interest in learning about and managing invasive species.

PHOTO and FIGURES

Photo 1 – Typical dense matting of Phragmites in winter

Photo 2 – Native plant diversity in core of Cloverdale wet meadow

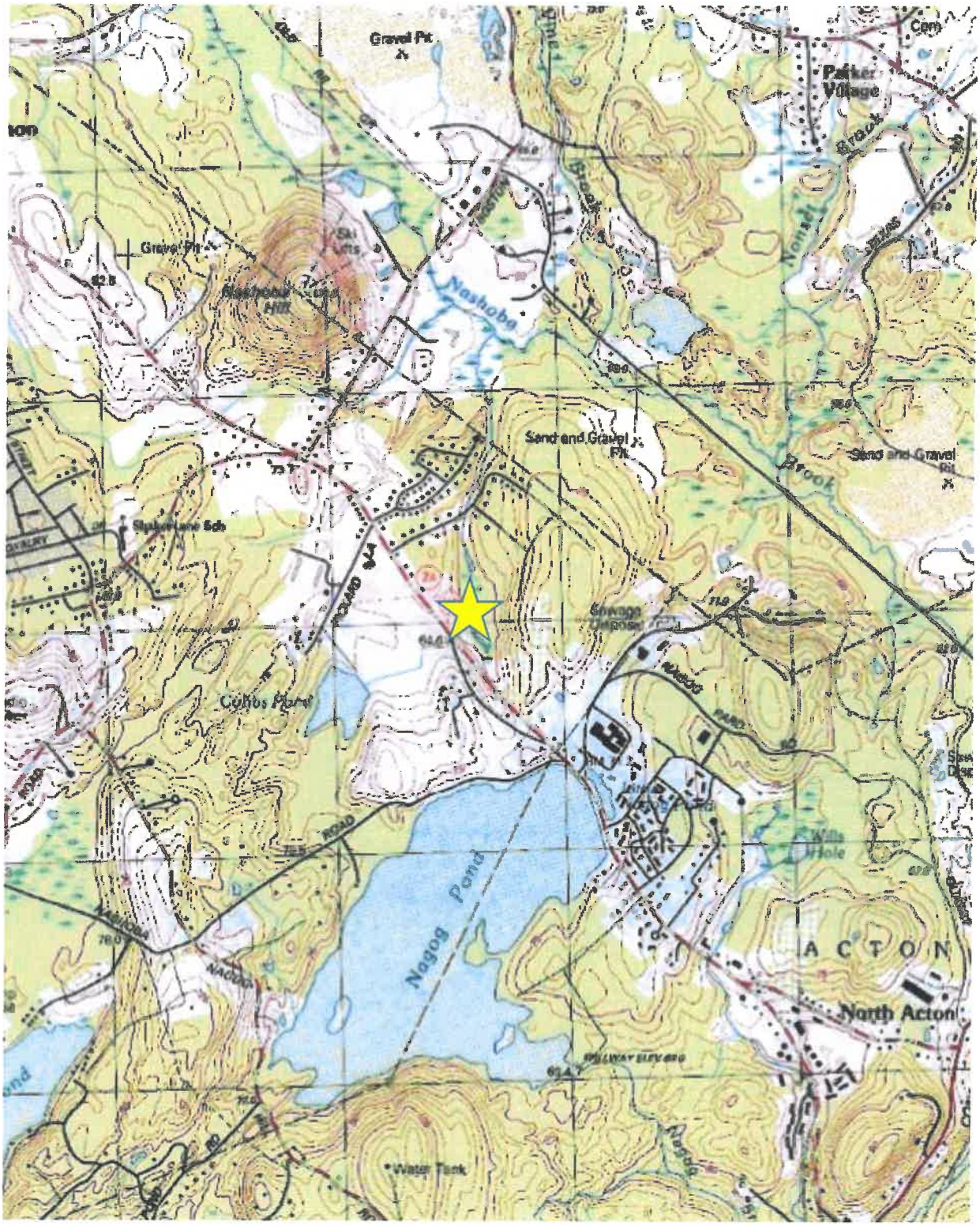

FIGURE 1 – USGS LOCUS MAP

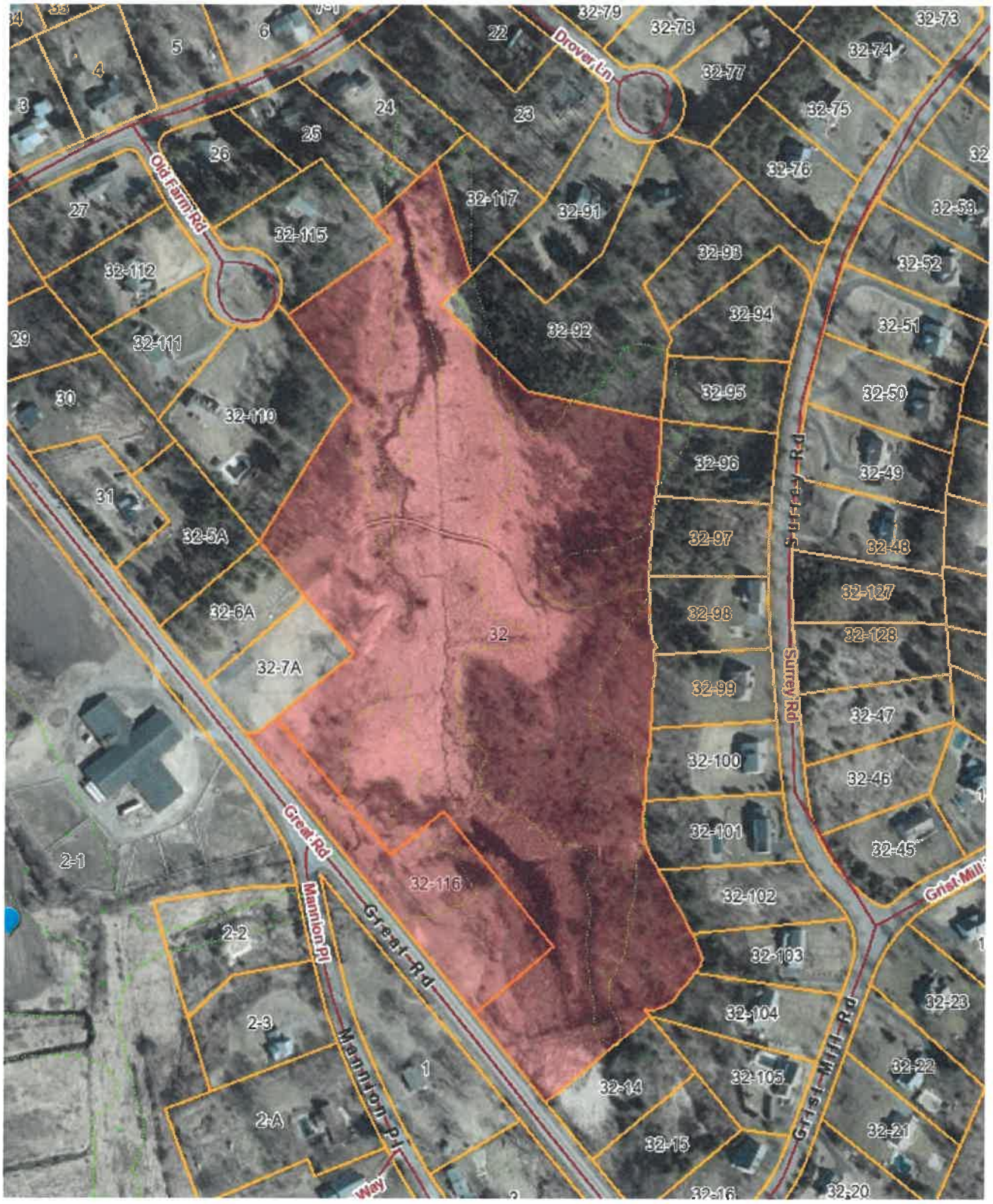

FIGURE 2 – 2021 AERIAL PHOTOGRAPH

FIGURE 3 – PHRAGMITES MAPPING

ATTACHMENT A – MANAGEMENT PLAN

LAND STEWARDSHIP, INC.

June 28th, 2023

Amy Green
Town of Littleton
Cloverdale Conservation Land
63 Great Rd.
Littleton MA 01460

INVASIVE PLANT MANAGEMENT PLAN – *Phragmites* Management. Cloverdale Conservation Land. Littleton, MA

Invasive plant management services associated with common reed (*Phragmites australis*) are planned at Cloverdale Conservation Land. The Cloverdale Conservation Area is located on Great Road (Rt. 119) in Littleton, MA, approximately 2 miles southeast of the downtown Littleton area (Figure 1). On 6/21/23 the property was walked by Director of Land Stewardship Inc. (LSI) Chris Polatin, LSI Associate Project Manager Adriana Hughes, and LSI Intern Lizzy Polatin. During the site visit we assessed the *Phragmites* infestation and site conditions. We propose approximately 1.5 acres for management.

Phragmites occurs on every continent except for Antarctica. The Eurasian common reed (*Phragmites australis* subsp. *australis)* was introduced to the east coast of the United States between the late 1700s and the early 1800s via the ballast in ships. It is now found throughout the U.S. and Canada, where it has displaced our native American phragmites (*Phragmites australis* subsp. *americanus*). Commonly referred to by its Latin name, phragmites is a vigorous plant that rapidly expands its reach. Like many invasive plants, it is frequently found on disturbed sites. Once established, phragmites creates dense stands that rapidly occupy available growing space and light, excluding other plants and preventing regeneration of native species. Common reed's dense rhizomatous structures alter wetland hydrology, while its dense growth habit increases the potential for fire while also degrading wetland wildlife habitat.

Common reed spreads via a combination of extensive runners, rhizomes, and seed. Once established, it is a difficult and costly species to eradicate. Early management of small stands of common reed is most cost-effective and effective in preventing establishment.

Invasive phragmites harms the environment by reducing wildlife habitats, decreasing plant diversity, and altering water levels by trapping sediments. In addition, it can diminish a landscapes aesthetic value by hindering views and restricting access for swimming, fishing and hunting. - https://hort.extension.wisc.edu/articles/invasive-phragmites/

A Guide to the Control and Management of Invasive Phragmites
http://lakestatesfiresci.net/docs/deq-ogl-ais-guide-phragbook-212418_7_0.pdf"

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

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

As the project areas fall under the jurisdiction of the Wetlands Protection Act (WPA), a Notice of Intent (NOI) must be filed with the Littleton Conservation Commission and with the Massachusetts Department of Environmental Protection (DEP).

Maps displaying *Phragmites* populations as well as DEP wetlands, buffer zones, and approximate hydrology are included below for reference (Figures 2 & 3).

Methods Summary

Prep Cut

Where conditions allow, areas of *Phragmites* need to be cut with brush saws in order to prepare the site for a more effective foliar application. The cut material will be left on the ground to decompose. Keeping invasive plant material on site is a best management practice to avoid spreading invasive plants to other properties.

Foliar spray application (backpack sprayers)

A foliar spray herbicide application using backpack sprayers will to be conducted in areas where *Phragmites* is the only plant growing and no native plants are present. Foliar treatments should be applied in a targeted manner by trained ecological restoration technicians during appropriate weather conditions (wind <5 mph and no rain forecast within 24 hours, in accordance with product labeling). A 2% Aquamaster solution will be used along with 0.5% wetland surfactant.

Targeted Herbicide Application Methods for Common Reed/Phragmites

Targeted methods must be used when applicable to ensure that herbicide is applied carefully only to *Phragmites*. A brief description of each method is below.

Cut and drip

Each stem is cut below a node on the stem. One drop of a solution of herbicide with water and indicator dye is dripped into each stem. This technique is typically used within a three-foot perimeter where *Phragmites* are growing directly adjacent to native species. A 50% Aquamaster solution will be used.

Glove technique (hand wiping)

An herbicide applicator wears a chemical resistant glove underneath an absorbent cotton glove. The applicator moistens the glove with herbicide from a backpack sprayer equipped with specialized ultra-low-volume nozzles into the glove, and then wipes the stem and leaves of each *Phragmites* plant. A 5% Aquamaster solution will be used along with 0.5% wetland surfactant.

Herbicide Selection

Only wetland-appropriate herbicides suitable for use in sensitive natural areas should be used in the lowest effective concentrations.

The herbicide Aquamaster (EPA Reg. No.524-343) should be used for this project in the application techniques listed above. Aquamaster is a wetland-approved glyphosate-based herbicide that is considered the standard for successful *Phragmites* control and protection of wetland resource areas. In addition, a wetland-approved non-ionic surfactant should be mixed into the herbicide solution along with indicator dye.

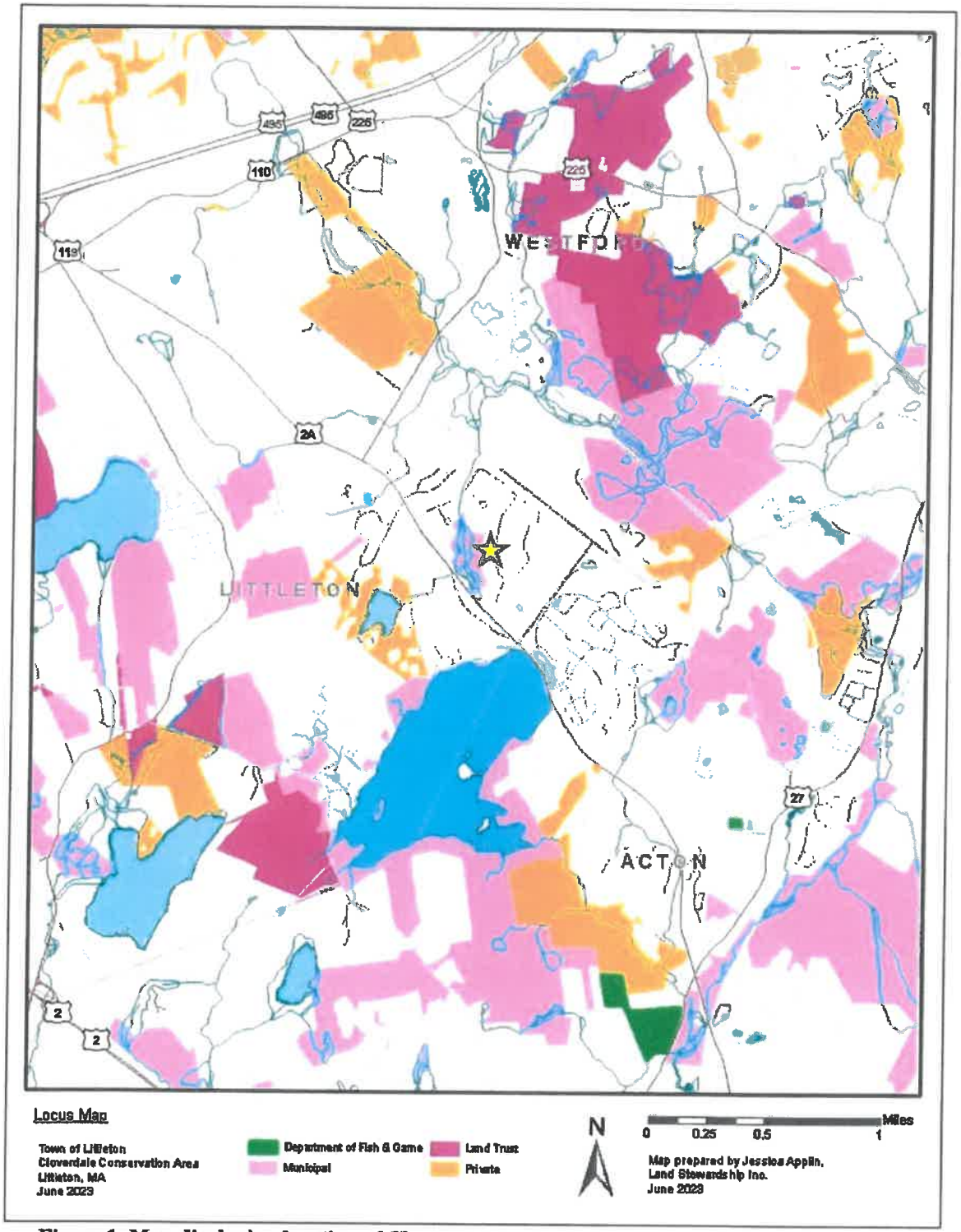

Figure 1. Map displaying location of Cloverdale Conservation Land at 63 Great Rd.

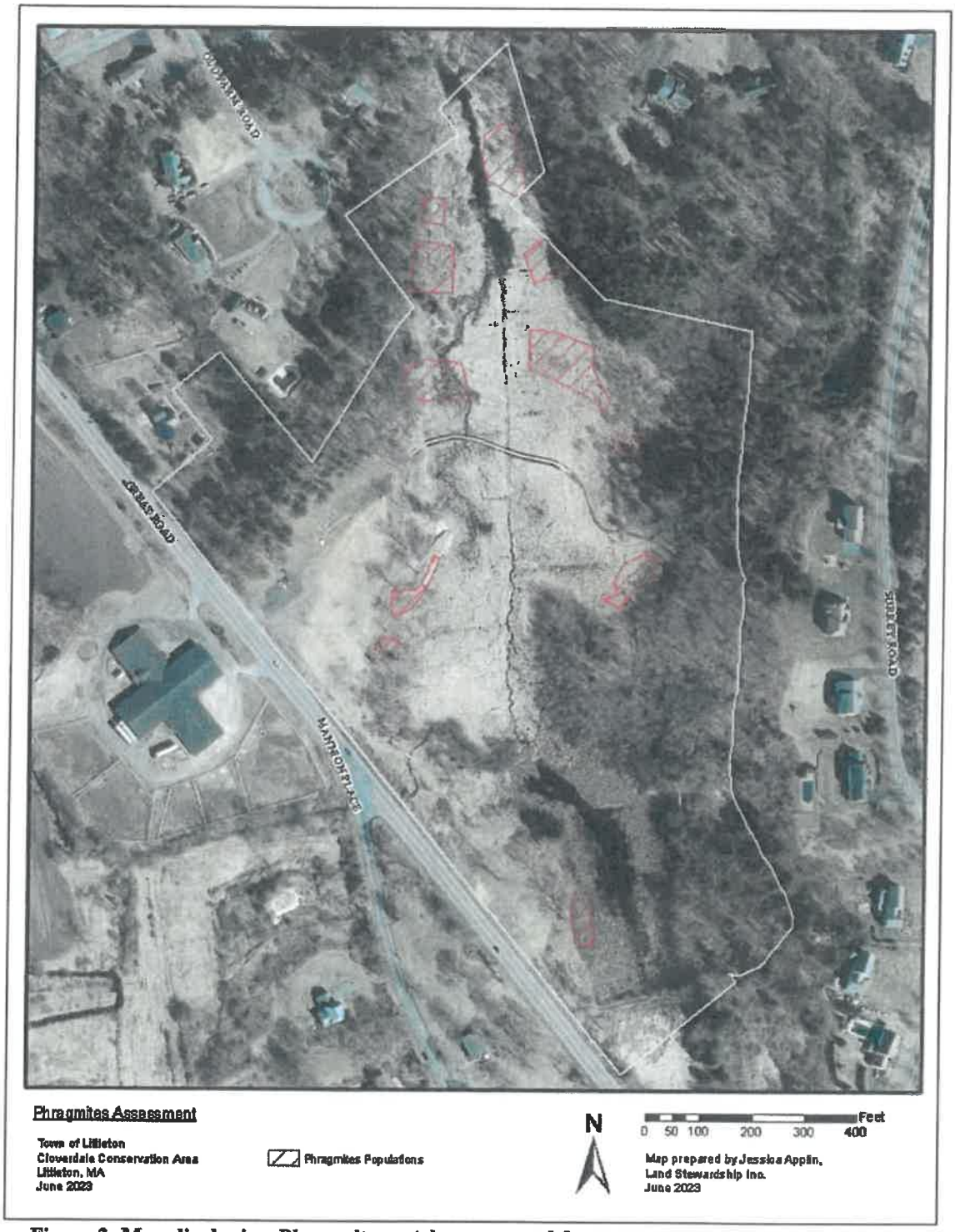

Figure 2. Map displaying *Phragmites* patches proposed for management.

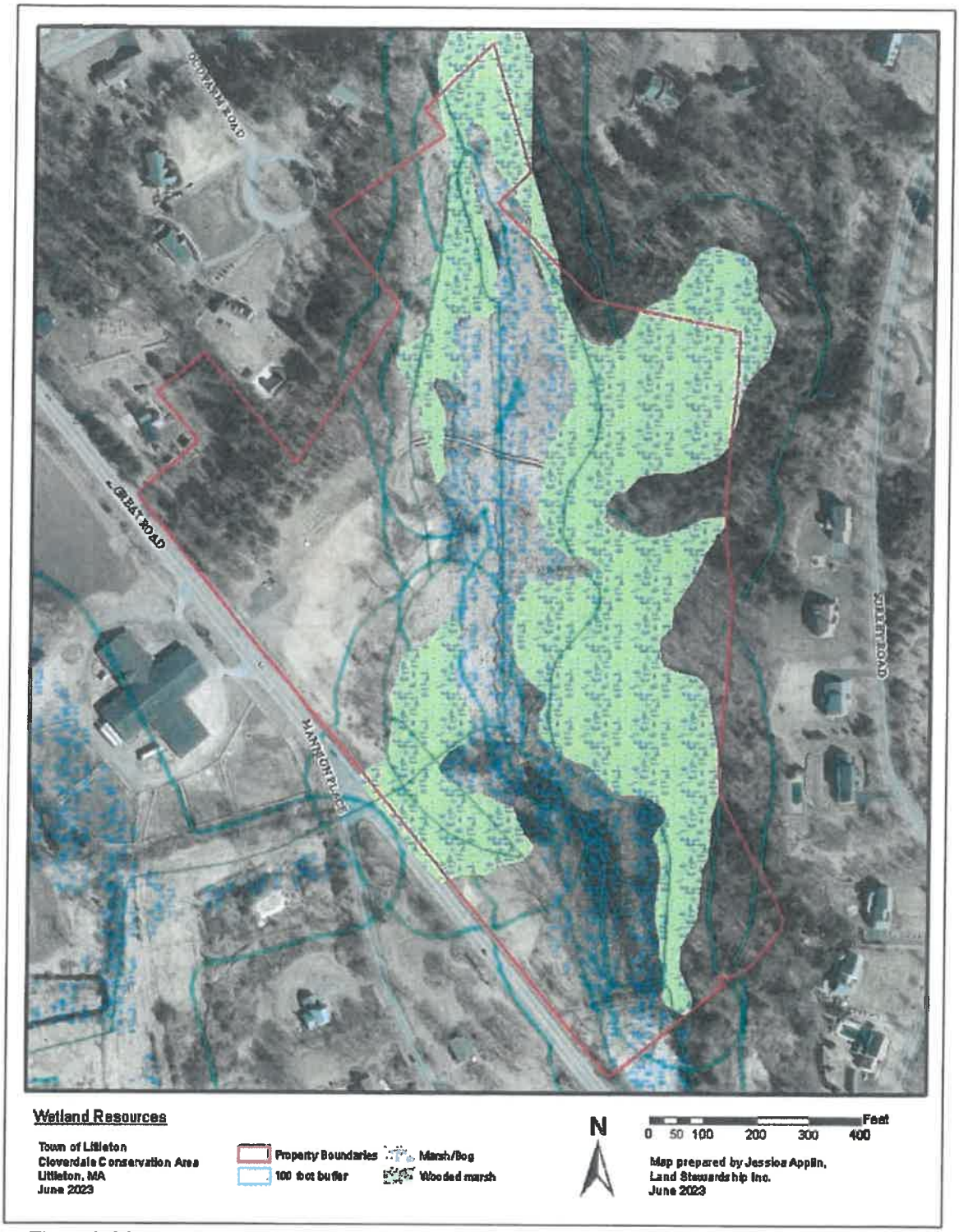

Figure 3. Map displaying Mass DEP wetlands, hydrology, and buffer zones.

Restoration Potential

Natural regeneration of site-specific plant species will proceed once the overstory of *Phragmites* is removed. During the site visit, we took note of a variety of plants currently existing on site (Table 1).

Table 1. Plant species seen at Cloverdale Conservation Land on 6/21/23.

Common Name	Scientific Name
Boneset	*Eupatorium perfoliatum*
Alder	*Alnus sp.*
Willow	*Salix sp.*
Goldenrod	*Solidago sp.*
Sedges	*Carex sp.*
Joe-pye-weed	*Eutrochium sp.*
Bulrushes	*Scirpus sp.*
Meadowsweet	*Spirea sp.*
Arrowhead	*Sagittaria latifolia*
Black Elderberry	*Sambucus canadensis*
Blue Flag Iris	*Iris versicolor*
Cat-tail	*Typha sp.*
Spotted Jewelweed	*Impatiens capensis*
Purple Loosestrife (INVASIVE)	*Lythrum salicaria*
Glossy Buckthorn (INVASIVE)	*Frangula alnus*

After treatment, we expect that many of the species listed above will start to fill into areas where *Phragmites* has been removed over the course of several years. Native plant re-establishment must be carefully monitored once the initial foliar treatment has been completed. After two full growing seasons, the progress of native plant restoration needs to be assessed to determine if a planting plan is recommended. Only site-appropriate species should be planted. We fully expect that passive native revegetation will be sufficient to restore vegetation to these areas.

Based on the conditions and species seen during the site visit, two natural communities should be referenced: deep emergent marshes and shallow emergent marshes. These natural communities are reference ecosystems that represent Cloverdale Conservation Land's likely composition prior to invasive species infestations and habitat degradation.

More information is available at the following Natural Heritage and Endangered Species Program website:
Shallow emergent marsh: https://www.mass.gov/doc/shallow-emergent-marsh-0/download
Deep emergent marsh: https://www.mass.gov/doc/deep-emergent-marsh-0/download

Treatment Methods and Schedule

2023

- *Task 1.* Permitting. This project falls under the jurisdiction of the Wetlands Protection Act (WPA). Therefore, a Notice of Intent (NOI) or Request for a Determination of Applicability (RDA) would need to be filed with the Littleton Conservation Commission and with the Massachusetts Department of Environmental Protection (DEP). This task should be conducted by the Town of Littleton.

- *Task 2.* Prep cut. November/December 2023 or dormant season 2024. *Phragmites* must be prep cut with brush saws in order to prepare the site for a more effective and efficient initial foliar application.

2024

- *Task 3.* Initial foliar treatment & select hand wiping. June. Foliar treatment to all *Phragmites* within the management area. Select hand wiping may be necessary in some locations to preserve native vegetation.

- *Task 4.* Follow up foliar treatment & select hand wiping. September. Follow up foliar treatment and select hand wiping to all *Phragmites* within the management area.

2025

- *Task 5.* Follow up foliar treatment & select hand wiping. June. Follow up spot foliar and select hand wiping to any resurgent *Phragmites* growth within the main management area.

- *Task 6.* Follow up foliar treatment & select hand wiping. September. Follow up spot foliar and select hand wiping to any new *Phragmites* growth within the management area.

2026

- *Task 7.* Follow up foliar treatment & select hand wiping. Summer. Follow up spot foliar and select hand wiping to any new *Phragmites* growth within the main management area.

Monitoring & Reporting

Objective: 80% (or better) *Phragmites* control resulting from 2024 series of treatments; 90% resulting from 2025 follow-up methods; and 95% control from 2026 follow-up treatment. The results of treatments each year should be monitored over the course of the project.

The project manager will install permanent photo monitoring points before work begins in order to quantify/measure success and keep the project accountable to the stated success criteria.

The monitoring and reporting schedule will be as follows:

- Baseline conditions monitoring: Before phragmites herbicide work in June 2024 (Year 1)
- Land Management Records to be submitted in July 2024
- Photo monitoring (Year 2) in June 2025
- Monitoring report submitted before the end of the year 2025
- Photo monitoring (Year 2) in June 2026
- Monitoring report submitted before the end of the year 2026
- Photo monitoring (Year 2) in June 2027
- Final monitoring report submitted before the end of the year 2027

Stewardship & Maintenance

Phragmites management requires a serious commitment and will need to be ongoing in order to protect your investment in management. To keep the *Phragmites* out of the area for the long term it will be necessary to watch the area closely by scouting for new patches and individual plants, even after the 3 years of treatment. Options for managing *Phragmites* after the initial three years usually consist of hand pulling, spot herbicide spraying, and/or cutting.

This plan has been prepared by:

Adriana Hughes.
Associate Project Manager

Adriana Hughes has worked with LSI since March 2023. She is knowledgeable in botany, best management practices for invasive species and wildlife conservation. She has a BS in Wildlife and Conservation Biology (University of Rhode Island). She has 5 years of experience working in ecology including 2 years working solely in invasive plant management.

Reviewed and approved 6/28/2023 by:
Chris Polatin Digitally signed by Chris Polatin Date: 2023.07.19 10:00:05 -04'00'
Christopher Polatin, M.S., CERP
Principal & Restoration Ecologist

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

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

ATTACHMENT B – SCOPE AND COSTS

LAND STEWARDSHIP, INC.

September 24th, 2023

Amy Green
Town of Littleton Conservation Commission
63 Great Rd.
Littleton MA 01460

INVASIVE PLANT MANAGEMENT– *Phragmites* Management. Cloverdale Conservation Land, Littleton, MA

Invasive plant management services associated with common reed (*Phragmites australis*) are proposed at Cloverdale Conservation Land. The Cloverdale Conservation Area is located on Great Road (Rt. 119) in Littleton, MA, approximately 2 miles southeast of the downtown Littleton area (Figure 1). LSI's Chris Polatin and Adriana Hughes visited the site on 6/21/23 to assess the site conditions that inform this proposal. Approximately 1.5 acres of phragmites is proposed for management (Figure 1). All work will be done to the specifications outlined in our management plan entitled Invasive Plant Management Plan – Phragmites Management. Cloverdale Conservation Land. Littleton, MA dated 6/28/2023.

Figure 1. Map displaying *Phragmites* patches proposed for management.

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

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

Permitting

As the project areas fall under the jurisdiction of the Wetlands Protection Act (WPA), a Notice of Intent (NOI) must be filed with the Littleton Conservation Commission and with the Massachusetts Department of Environmental Protection (DEP).

Treatment Methods and Schedule

2023/2024

- *Task 1.* Permitting Support. This project falls under the jurisdiction of the Wetlands Protection Act (WPA). Therefore, a Notice of Intent (NOI) or Request for a Determination of Applicability (RDA) will need to be filed with the Littleton Conservation Commission and with the Massachusetts Department of Environmental Protection (DEP). The Town of Littleton has requested our support in this process. This support includes attending two Conservation Commission meetings, and consulting with the Town on management methods, herbicides, and project details as needed. *$600.00*

2024

- *Task 2.* Prep cut. Dormant season 2024. Late Winter/Early Spring. *Phragmites* must be prep cut with brush saws in order to prepare the site for a more effective and efficient initial foliar application. *$10,200.00*
    - *Monitoring - Drone.* We will fly a drone over the site to capture a macro view of the phragmites management areas before cutting and treatment. This imagery will serve as the baseline monitoring conditions prior to treatment.

- *Task 3.* Initial foliar treatment & select hand wiping. June. Foliar treatment to all *Phragmites* within the management area. Select hand wiping may be necessary in some locations to preserve native vegetation. *$11,400.00*
    - *Monitoring.* Baseline photo-monitoring points will be established, and initial site conditions will be recorded. Monitoring points will be placed in several of the phragmites patches to provide detailed photos of the changes to the site over time.

- *Task 4.* Follow up foliar treatment & select hand wiping. September. Follow up foliar treatment and select hand wiping to all *Phragmites* within the management area. *$3,900.00*

2025

- *Task 5.* Follow up foliar treatment & select hand wiping. June. Follow up spot foliar and select hand wiping to any resurgent *Phragmites* growth within the main management area. *$3,000.00*
    - *Monitoring.* Photo-monitoring data will be collected, stored and processed.
- *Task 6.* Follow up foliar treatment & select hand wiping. September. Follow up spot foliar and select hand wiping to any new *Phragmites* growth within the management area. *$2,400.00*

2026

- *Task 7.* Follow up foliar treatment & select hand wiping. Summer. Follow up spot foliar and select hand wiping to any new *Phragmites* growth within the main management area. *$2,400.00*
- *Task 8.* Follow up foliar treatment & select hand wiping. Summer. Follow up spot foliar and select hand wiping to any new *Phragmites* growth within the main management area. *$1,800.00*
    - *Monitoring.* Photo-monitoring data will be collected, stored and processed.
- *Task 8.* Final Report. November. We will prepare a final project monitoring report and submit to the Littleton Conservation Commission in support of a Certificate of Compliance to close out the project. *$2,400.00*

Total Estimated Budget: **$38,100.00**

2027 & Beyond

Continued annual stewardship treatments will be necessary to manage new phragmites growth. We can work with you to develop a stewardship plan and assist with treatments as needed. The cost for LSI to perform annual stewardship will be between $800 - $1,200/year to maintain the site at 95% phragmites control. This stewardship task can be performed in a variety of ways. We can help you plan for this in the future.

Monitoring & Reporting

Objective: 80% *Phragmites* control resulting from 2024 series of treatments; 90% resulting from 2025 follow-up methods; and 95% control from 2026 follow-up treatment. The results of treatments each year will be monitored over the course of the project.

The project manager will install permanent photo monitoring points before work begins in order to quantify/measure success and keep the project accountable to the stated success criteria.

The monitoring and reporting schedule will be as follows:

- Baseline conditions monitoring: Before phragmites herbicide work in June 2024 (Year 1)
- Land Management Records to be submitted in July 2024
- Photo monitoring (Year 2) in June 2025
- Monitoring report submitted before the end of the year 2025
- Photo monitoring (Year 3) in June 2026
- Monitoring report submitted before the end of the year 2026
- Photo monitoring (Year 4) in June 2027
- Final monitoring report submitted before the end of the year 2027

Quality Assurance and Reporting

I will serve as project manager for your project and will be your point of contact. I will inspect all crew work firsthand to make sure that the treatment was well executed, thorough and effective. I 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).

Payment Schedule

We will provide you an invoice within one week of task completion. The land management record will follow within two weeks of task completion. Payment is due upon receipt of invoice unless other arrangements have been agreed upon.

To retain the services listed above, please return a signed copy of this proposal to the address below.

Signature Date

If you have any questions, please call me at 413-863-6333 or email me at chris@landstewardshipinc.com.

Sincerely Yours,

Chris Polatin Digitally signed by Chris Polatin Date: 2023.09.24 12:48:05 -04'00'

Christopher Polatin, M.S., CERP
President & Senior Restoration Ecologist

We maintain the following insurance policies:

- General liability
- Workers' compensation
- Auto

We will provide a certificate of insurance at your request.

About Land Stewardship, Inc.

Our team members are thoroughly trained in ecological restoration techniques and best management practices, wetlands identification, and invasive/native plant identification. We all have at least an undergraduate education in a natural resource field, while others hold master's degrees in environmental science. We maintain pesticide applicator licenses (Massachusetts and other New England states) and have obtained or are working to obtain certificates in Invasive Plant Management through UMASS Extension.

Our company supports the Society for Ecological Restoration and the North American Invasive Species Management Association as our professional organizations. These affiliations provide us with standards for practice, educational opportunities, professional certification, a code of ethics, inspiration, and a community of scientists and practitioners to engage with in order to represent best practices in our field.