

# CONSERVATION COMMISSION AGENDA

August 5, 2021

The Conservation Commission will hold this meeting as a virtual meeting on Thursday, August 5, 2021 at 7:00 pm. No in-person meeting will take place at City Hall.

All meeting documents are available at: <https://www.newtonma.gov/government/planning/boards-commissions/conservation-commission/meeting-documents>

Zoom access information for the August 5, 2021 Conservation Commission meeting will be posted at the following web address 48 hours in advance of the meeting.

<https://www.newtonma.gov/government/planning/boards-commissions/conservation-commission>

Please feel free to email [jsteel@newtonma.gov](mailto:jsteel@newtonma.gov) and [crundelli@newtonma.gov](mailto:crundelli@newtonma.gov) with any questions about filings prior to the meeting or access to the meeting.

**NOTE:** In addition to the documents presented in the Commission's packet (available on the Commission's website), full NOI plans and narratives are available on [the Commission's website](#).

**NOTE:** Times listed are estimates. Items may be taken out of order at the Chair's discretion. Discussions of wetland cases may be limited by the Chair.

## DECISIONS

### I. CONSERVATION AREA DECISIONS

1. (7:00) Beekeeping Update and License Approval for Old Deer Park

### II. WETLANDS DECISIONS

2. (7:15) 160 Pine Street – cont'd NOI – retaining wall replacement – DEP File #239-898
  - Owner/Applicant: David Altman, Advantage Property Management Representative: Eric DeNardo, Environmental Strategies and Management, Inc.
  - Request: Issue an OOC.
3. (7:35) Charles River Lower Basin – NOI (cont'd) – vegetation management – DEP File #239-900
  - Owner/Applicant: Mass. Department of Conservation and Recreation Representative: Keith Gazaille, SOLitude
  - Request: Issue an OOC.
4. (8:15) 32 Placid Road – NOI – single-family home addition and new deck – DEP File #239-899
  - Owner/Applicant: Norma Garcia Representative: Timothy McGuire, Goddard Consulting, LLC
  - Request: Issue an OOC.
5. (8:35) 96 Lake Avenue – teardown/rebuild single-family home – DEP File #239-XXX
  - Owner/Applicant: Tamar and Philip Warburg Representative: Dana Altobello, Merrill Engineers and Land Surveyors
  - Request: Issue an OOC.
6. (9:00) 64 Selwyn Road – COC Request – addition to SFH – DEP #239-792
  - Owner: Shachar Rabbe Representative: none
  - Request: Issue COC.
7. (9:05) 144 Upland Avenue – COC Request – new deck – DEP #239-480
  - Owner: Marc Abend Representative: none
  - Request: Issue COC.
8. (9:10) 20 Rogers Street (Crystal Lake) – COC Request – Left Beach work – DEP #239-897
  - Owner: City of Newton Representative: Luis Perez Demorizi, Parks, Recreation and Culture
  - Request: Issue COC.

### III. ADMINISTRATIVE DECISIONS

9. (9:20) Minutes of 7/15/21 to be approved
  - Documents Presented: Draft 7/15/21 minutes
  - Staff Recommendations: Vote to accept the 7/15/21 minutes.



**Mayor**  
Ruthanne Fuller

**Director  
Planning &  
Development**  
Barney Heath

**Chief  
Environmental  
Planner**  
Jennifer Steel

**Assistant  
Environmental  
Planner**  
Claire Rundelli

**Conservation  
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Kathy Cade  
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Judy Hepburn  
Ellen Katz  
Susan Lunin  
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Leigh Gilligan

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[www.newtonma.gov](http://www.newtonma.gov)

The location of this meeting/event is wheelchair accessible and Reasonable Accommodations will be provided to persons with disabilities who require assistance. If you need a Reasonable Accommodation, please contact the city of Newton's ADA/Section 504 Coordinator, Jini Fairley, at least two business days in advance (2 weeks for ASL or CART) of the meeting/event: [fairley@newtonma.gov](mailto:fairley@newtonma.gov) or (617) 796-1253. The city's TTY/TDD direct line is: 617-796-1089. For the Telecommunications Relay Service (TRS), please dial 711.

**IV. ISSUES AROUND TOWN DECISIONS**

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**UPDATES**

**V. WETLANDS UPDATES**

**VI. CONSERVATION AREA UPDATES**

**VII. ISSUES AROUND TOWN UPDATES**

**VIII. ADMINISTRATIVE UPDATES**

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***OTHER TOPICS NOT REASONABLY ANTICIPATED BY THE CHAIR 48 HOURS BEFORE THE MEETING***

**ADJOURN**

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**NOTE:** In addition to the documents presented in the Commission's packet (available on the Commission's website), full NOI plans and narratives are available on [the Commission's website](#).

**NOTE:** Times listed are estimates. Items may be taken out of order at the Chair's discretion. Discussions of wetland cases may be limited by the Chair.

## DECISIONS

### I. CONSERVATION AREA DECISIONS

#### 1. (7:00) Beekeeping Update and License Approval for Old Deer Park

- Documents Presented: Licenses for Old Deer Park and Norumbega, photos
- Staff Notes:
  - Mark Lewis, the beekeeper at the Old Deer Park will provide the Commission with a mid-summer update on his practice. Staff have drafted and received approval from the Law Department on the updated, 1-year license for Mark Lewis at the Old Deer Park. This license has been signed by Mark and is ready for the Commission's signatures.
  - The Ohorilkos, the beekeepers at Norumbega, will provide the Commission with a mid-summer update on their practice. Staff have drafted a 1-year license for the Ohorilkos at Norumbega. This license has been signed by the Ohorilkos and is ready for the Commission's signatures.
- Staff Recommendations: Vote to sign the 1-year licenses for the Old Deer Park and Norumbega.

### II. WETLANDS DECISIONS

#### 2. (7:15) 160 Pine Street – cont'd NOI – retaining wall replacement – DEP File #239-898

- Owner/Applicant: David Altman, Advantage Property Management Representative: Eric DeNardo, Environmental Strategies and Management, Inc.
- Request: Issue an OOC.
- Documents Presented: Colored plans, seed mix detail, site photos, draft OOC
- Jurisdiction: Buffer Zone, City Floodplain
- Performance Standards
  - **Buffer Zone. 10.53(1): General Provisions:** "For work in the Buffer Zone subject to review under 310 CMR 10.02(2)(b)3., the Issuing Authority shall impose conditions to protect the interests of the Act identified for the adjacent Resource Area. ... The purpose of preconstruction review of work in the Buffer Zone is to ensure that adjacent Resource Areas are not adversely affected during or after completion of the work."
  - **City Floodplain. Sec. 22-22. Floodplain/Watershed Protection Provisions.**
    - (b)(1) Except as provided in subsections (b)(2) and (e) of this section, no building or other structure shall be erected, constructed, altered, enlarged or otherwise



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created for any residence or other purpose ... which will restrict floodwater flow or reduce floodwater storage capacity shall be permitted.

(b)(2) ... the conservation commission may issue an order of conditions for the following uses in the Floodplain/Watershed Protection District:

a) Any building or structure for which compensatory storage is provided ...

○ Project Summary

- Replace an existing, failing wooden retaining wall with a Redi-Rock retaining wall (roughly 41 inches thick). The wall will be 4' high for roughly 24' feet and 7' high for roughly 57'.
- Erosion controls are proposed between the wall and the stream, along with additional tree protection for the twin black locust.

○ Staff Notes

- Revised plans have been submitted by the applicant providing topography, details regarding the wall removal process, erosion controls, and stockpiling locations.
- The seed mix proposed by the applicant is the New England Wetland Plants Wetland Seed Mix. The details of this are available in your packet. Staff are skeptical that a seed mix will survive, so would not recommend conditioning its survival.
- The note about catch-basin protection has been removed since there are no catch-basins in the vicinity.

○ Staff Recommendations: Vote to close the hearing and issue an Order of Conditions with the following special conditions:

- All litter, debris, and dumped material in the work zone must be removed.
- All waste generated from the project (e.g., asphalt, timbers, soil and fill material) must be removed from the site and disposed of properly.
- Grades must be restored to match existing grades and meet surrounding grades appropriately.
- Upon completion of the project, erosion controls must be removed.
- If any trees within the project area die within 2 years of the start of construction or have been demonstrably harmed by construction activities, they shall be replaced at a ratio of 2:1 with native canopy saplings (of roughly 2 caliper inches).

**3. (7:35) Charles River Lower Basin – NOI (cont'd) – vegetation management – DEP File #239-900**

○ Owner/Applicant: Mass. Department of Conservation and Recreation Representative: Keith Gazaille, SOLitude

○ Request: Issue an OOC.

○ Documents Presented: Plans, site photos, draft OOC

○ Jurisdiction: BVW, Bank, LUWW

○ Performance Standards

- **Limited Project: 310 CMR 10.53(4)(e)(5)**. Limited (Ecological Restoration Limited Projects) (Types of Ecological Restoration Limited Projects) (Other Restoration Projects). "An Ecological Restoration Project that is not listed in 310 CMR 10.54(4)(e)2. through 4., that will improve the natural capacity of a Resource Area(s) to protect the interests identified in M.G.L. c. 131, § 40, may be permitted as an Ecological Restoration Limited Project provided that the project meets the eligibility criteria set forth in 310 CMR 10.54(4)(a) though (d). Such projects include, but are not limited to, the restoration, enhancement or management of Rare Species habitat, the restoration of hydrologic and habitat connectivity, the removal of aquatic nuisance vegetation to retard pond and lake eutrophication, the thinning or planting of vegetation to improve habitat value, riparian corridor re-naturalization, river floodplain reconnection, in-stream habitat enhancement, fill removal and regrading, flow restoration, and the installation of fish passage structures.

• **OR**

• LUWW 301 CMR 10.56

(a) Work shall not impair the following:

1. The water carrying capacity within the defined channel...;
2. Ground and surface water quality;
3. The capacity of said land to provide breeding habitat, escape cover and food for fisheries; and
4. The capacity of said land to provide important wildlife habitat functions. ...
5. Work on a stream crossing....

(b) The issuing authority may issue an Order to maintain or improve boat channels

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(c) No project may be permitted which will have any adverse effect on rare species.

- Project Summary
  - Management of invasive species within the Charles River through herbicide (Sonar/fluridone and ProcellaCOR EC herbicide (florpyrauxifen-benzyl) along with hand-pulling of water chestnuts
  - Conditional use of algaecides for the management of cyanobacteria, if necessary, in the event of a health hazard, if/as necessary following Commission review and approval.
  - Conditional use of other herbicides if/as necessary following Commission review and approval.
- Staff Notes
  - A DEP file number has been received.
  - In response to Commission requests, the applicant has provided:
    - A map of “potential treatment areas” of invasive species found in the Newton stretch of the River.
    - A revised narrative and calendar of treatments.
  - **New Staff Comments**
    - The Commission must determine whether it should permit this as a Limited Project (does it qualify as “ecological restoration” and does it need to have performance standards “waived”) or can it be permitted under Land Under Wetlands and Waterbodies (since it seems to meet the performance standards)
    - Will there be hand-pulling of water chestnuts in Phase I? Water chestnuts are not shown on the Newton map or calendar.
    - No water quality monitoring information was given in the new narrative, so the Commission may be left to condition this.
    - No information on project monitoring or verification was provided in the revised narrative, so the Commission may be left to condition this.
    - No information on a pre-treatment survey report (to be provided to the Commission) was given in the new narrative, so the Commission may be left to condition this.
    - No information on how ProcellaCOR will be applied was given in the new narrative, so the Commission may be left to condition this.
    - Since a land-based long-term remote set-up for Sonar application has not been discussed with the Commission and is not detailed in the revised narrative, it should not be permitted under this Order.
    - Water chestnuts were shown in the potential treatment area map of Newton and off-loading sites weren’t identified, so off-loading and dewatering should not be permitted in Newton.
    - No water quality testing details were provided in the revised narrative, so the Commission may be left to condition this.
    - No details of a year-end report were provided in the revised narrative, so the Commission may be left to condition this.
    - Without any info on verification, water quality testing, and treatment thresholds, as requested, the need for on-going peer review seems likely.
  - Staff Recommendations: Await revised materials from the applicant, and if/when appropriate, vote to close the hearing and issue an Order of Conditions with the special conditions in the accompanying draft.

**4. (8:15) 32 Placid Road – NOI – single-family home addition and new deck – DEP File #239-899**

- Owner/Applicant: Norma Garcia Representative: Timothy McGuire, Goddard Consulting, LLC
- Request: Issue an OOC.
- Documents Presented: Colored plans, site photos, draft OOC
- Jurisdiction: BLSF, City Floodplain
- Performance Standards
  - **Bordering Land Subject to Flooding: 10.57**
    - Compensatory storage shall be provided for all flood storage volume that will be lost ... Such compensatory volume shall have an unrestricted hydraulic connection to the same waterway or water body.
    - Work shall not restrict flows so as to cause an increase in flood stage or velocity.
    - Work in those portions of bordering land subject to flooding found to be significant to the protection of wildlife habitat shall not impair its capacity to provide important wildlife habitat functions. ....
  - **City Floodplain. Sec. 22-22. Floodplain/Watershed Protection Provisions.**

- (b)(1) Except as provided in subsections (b)(2) and (e) of this section, no building or other structure shall be erected, constructed, altered, enlarged or otherwise created for any residence or other purpose ... which will restrict floodwater flow or reduce floodwater storage capacity shall be permitted.
- (b)(2) ... the conservation commission may issue an order of conditions for the following uses in the Floodplain/Watershed Protection District:
  - a) Any building or structure for which compensatory storage is provided ...

- Project Summary

- Demolish existing porch on the side of the house.
- Construct a single-story addition and new deck in the location of the porch to be removed.
- No tree removal is proposed.
- The project would result in 27.71 cubic feet of fill being brought on site and proposes to create 67.58 cubic feet of compensatory flood storage by providing a cut at the 118' elevation.

- Staff Notes:

- Lattice is shown in the proposed fill calculations. Applicant should clarify why “porch” and “deck” lattice is proposed, and provide a detail of the proposed lattice to ensure it meets with the Commission’s Construction in Flood Zone Guidelines. It is the staff’s understanding that the existing porch is to be removed, so it is unclear what porch would be receiving lattice.
- Applicant should clarify if the existing landscaping in front of the porch to be removed will be replaced. Any replacement landscape plantings should be native.
- Currently no mitigation plants are proposed for the expanded footprint of the home. Staff feel that replacement of any disturbed landscape plantings with native species can serve as mitigation plantings.

- Staff Recommendations: Vote to close the hearing and issue an Order of Conditions with the following special conditions.

- Relative to General Note #18 on the approved plan, the Conservation Office must receive the as-built plans and said plans must include replacement and mitigation landscaping.
- All structures must comply with the Commission’s Guidelines for Construction in Flood Zone, which prohibit enclosure of the space under the deck with skirting, mesh, lattice, etc. in any way that restricts or impedes the flow of floodwater (see the Guidelines for details). Such compliance must be confirmed for the completed deck/addition/stairs through provision of photos to the Conservation Office.
- Replacement landscape plantings must be native and must cover an area equal to that shown on the plan as “Exist. Plants”, which is ~288 s.f. This could be 10 shrubs with a mix of Dwarf Bush Honeysuckle (Diervilla lonicera), Sweet Pepperbush (Clethra alnifolia), and American holly (Ilex opaca).

5. **(8:35) 96 Lake Avenue – teardown/rebuild single-family home – DEP File #239-XXX**

- Owner/Applicant: Tamar and Philip Warburg Representative: Dana Altobello, Merrill Engineers and Land Surveyors
- Request: Issue an OOC.
- Documents Presented: Colored plans, site photos, draft OOC
- Jurisdiction: Buffer Zone, City Floodplain
- Performance Standards

- **Buffer Zone. 10.53(1): General Provisions:** “For work in the Buffer Zone subject to review under 310 CMR 10.02(2)(b)3., the Issuing Authority shall impose conditions to protect the interests of the Act identified for the adjacent Resource Area. ... The purpose of preconstruction review of work in the Buffer Zone is to ensure that adjacent Resource Areas are not adversely affected during or after completion of the work.”

- **City Floodplain. Sec. 22-22. Floodplain/Watershed Protection Provisions.**

- (b)(1) Except as provided in subsections (b)(2) and (e) of this section, no building or other structure shall be erected, constructed, altered, enlarged or otherwise created for any residence or other purpose ... which will restrict floodwater flow or reduce floodwater storage capacity shall be permitted.
- (b)(2) ... the conservation commission may issue an order of conditions for the following uses in the Floodplain/Watershed Protection District:
  - a) Any building or structure for which compensatory storage is provided ...

- Project Summary

- Note: much of the site work is outside Commission jurisdiction.

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- Demolish existing single-family home, including driveway and rear patio.
  - Construct new single-family home with permeable paver driveway, concrete patio, paver patio, and stormwater systems. A very small increase in impervious area within the 100-foot buffer is proposed.
  - Replace back yard stone stair edging to provide safety.
  - Undertake repairs to stabilize the retaining wall that defines the bank of Crystal Lake
  - Removal of invasive shrubs is proposed. No trees are proposed to be removed within Commission jurisdiction.
  - Mitigation plantings are proposed close to the Lake and include 57 native shrubs and herbaceous plants.
- Staff Notes
    - This project presents a minimal increase of non-exempt impervious area within the 100' buffer zone, and with the proposed invasive species management and native plantings proposed, will likely result in an improvement to the site.
    - The applicant should clarify plans for swale stabilization.
    - The civil plans indicate a "proposed" patio close to the Lake; the architectural plans indicate a "restored" patio. The staff site visit concluded that a patio as shown on the plans should be considered "new" or "proposed". Staff understand from the applicant that the intent of the patio is to limit disturbance of the vegetation near the Lake and support such an installation.
    - A number of winged euonymus shrubs are on the site but are not called out on the plans. The applicant should clarify the extent of proposed invasive species removal, anticipated methods (mechanical or chemical methods), and whether long-term maintenance for invasive management is expected.
  - Staff Recommendations: Vote to close the hearing and issue an Order of Conditions with the following conditions.
    - Approve two plan sheets as the Plans of Record:
      - Site Plan 96 Lake Ave., 7/20/21, Sheet 1 of 1, Merrill Engineering and Land Surveyors. – NOTE that all landscaping details on this sheet are superseded by Landscape Plan, Sheet A0-51, 7/29/21
      - Landscape Plan, Sheet A0-51, 7/29/21, Place Tailor, Inc.
    - Erosion control in the form of a staked compost sock of at least 10" in diameter must be installed around the area to be disturbed by work on the stairs and the new proposed swale.
    - The stairs may be reconstructed and widened for safety purposes up to 4' wide in their current alignment and length but said reconstruction may not disturb the mature trees nearby. Grading of the adjacent slopes has not been proposed and is not hereby approved.
    - The minor grading changes associated with the proposed swale are approved. The new swale must be stabilized with XXXX.
    - Buckthorn, bittersweet, and winged euonymus may be removed from throughout the site if so desired by the owners.
    - The proposed 42-inch fence along the northeastern property line must be raised 4-6" to allow for wildlife passage.
    - The "wrought iron" fence along the rear property line (shared with Crystal Lake) must be raised 4-6" to allow for wildlife passage.
    - Approved repairs to stabilize the retaining wall that defines the bank of Crystal Lake are limited to the injection of low-toxicity grout. More involved reconstruction of the wall or stairs are not hereby permitted.
    - Mitigation plantings must be installed as per the approved plans and must survive at XX% after 2 growing seasons.
    - If any trees within the project area die within 2 years of the start of construction or have been demonstrably harmed by construction activities, they shall be replaced at a ratio of 2:1 with native canopy saplings (of roughly 2 caliper inches).

**6. (9:00) 64 Selwyn Road – COC Request – addition to SFH – DEP #239-792**

- Owner: Shachar Rabbe Representative: none
- Request: Issue COC.
- Documents Presented: none
- Staff Notes: All required COC materials have been received and a site visit on 7/19/21 confirmed compliance.
- Staff Recommendations: Vote to issue a Certificate of Compliance.

**7. (9:05) 144 Upland Avenue – COC Request – new deck – DEP #239-480**

- Owner: Marc Abend Representative: none
- Request: Issue COC.

- Documents Presented: none
- Staff Notes: All required COC materials have been received and a site visit on 7/21/21 confirmed compliance.
- Staff Recommendations: Vote to issue a Certificate of Compliance.

**8. (9:10) 20 Rogers Street (Crystal Lake) – COC Request – Left Beach restoration work – DEP #239-897**

- Owner: City of Newton Representative: Luis Perez Demorizi, Parks, Recreation and Culture
- Request: Issue COC.
- Documents Presented: none
- Staff Notes: All required COC materials have been received and a site visit on 7/28/21 confirmed compliance.
- Staff Recommendations: Vote to issue a Certificate of Compliance.

**II. CONSERVATION AREA DECISIONS** – None at this time.

**III. ADMINISTRATIVE DECISIONS**

**9. (9:20) Minutes of 7/15/21 to be approved**

- Documents Presented: Draft 7/15/21 minutes
- Staff Recommendations: Vote to accept the 7/15/21 minutes.

**IV. ISSUES AROUND TOWN DECISIONS** – None at this time.

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**UPDATES**

**V. WETLANDS UPDATES**

**VI. CONSERVATION AREA UPDATES**

- Riverwalk bike rack: No word from the Eagle Scout who had been interested in installing a bike rack.

**VII. ISSUES AROUND TOWN UPDATES**

**VIII. ADMINISTRATIVE UPDATES**

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**OTHER TOPICS NOT REASONABLY ANTICIPATED BY THE CHAIR 48 HOURS BEFORE THE MEETING**

**ADJOURN**

**LICENSE AGREEMENT  
BETWEEN THE CITY OF NEWTON AND MARK LEWIS  
RELATIVE TO THE DEERPARK POLLINATOR REFUGE AND APIARY**

WHEREAS, the City of Newton (the “City”) is the Owner of a parcel of land commonly known as Deer Park located in the Webster Conservation Area, said parcel being taken by eminent domain by Order of Taking dated December 2, 1968, and shown as Parcel I on a plan of Land dated December 19, 1968, signed by U.M. Schiavone, City Engineer, and recorded with the City’s Engineering Department, (the “Property”);

WHEREAS, the Property is more fully depicted in the plan attached hereto as **Exhibit A**;

WHEREAS, Mark Lewis an experienced beekeeper (“Licensee”), proposes to construct and maintain a Pollinator Refuge and Teaching Apiary on the Property;

NOW THEREFORE, in consideration of the covenants contained herein, be it agreed as follows:

1. The City, acting by and through its Conservation Commission (the “Commission”), without in any way releasing or abandoning its ownership and control of the land known as Deer Park and shown in Exhibit A, hereby grants a license to Licensee to enter upon and maintain the Licensed Area for the purpose of erecting, maintaining and otherwise establishing a Pollinator Refuge and Apiary which shall consist of a habitat of beehives, as more thoroughly detailed below. The Licensed Area is shown on the sketch plan attached hereto as **Exhibit B** (the “Licensed Area”).
2. Licensee agrees to construct and maintain a sand fence upon the Licensed Area for the purpose of enclosing the hives upon an existing concrete slab located in the Licensed Area. Licensee shall bear all costs associated with the construction, maintenance, and removal of the sand fence; and the City shall bear no costs associated with the construction, maintenance, or removal of the sand fence.
3. Licensee agrees to post signs at the trail entrance into the Deer Park noting the presence of beehives. Licensee shall seek and obtain approval for the text, number, size and location of the signs prior to posting.
4. Licensee shall maintain no more than six (6) full-size honeybee hives upon the Licensed Area, unless otherwise agreed upon in writing by the Parties. Licensee shall be responsible for all costs associated with the construction, maintenance, and removal of the hives; and the City shall bear no costs associated with the construction, maintenance, or removal of the hives.
5. Licensee agrees to operate and maintain said hives in full compliance with the “Newton Conservation Commission Policy -- Apiaries on Newton Conservation Land -- Approved March 11, 2021” at all times and in all regards, including but not necessarily limited to: (1) Eligibility, (2) Application, (3) Non-Transferrable License, (4) Registration and Inspection, (5) Apiary Location, (6) Apiary Design, (7) Apiary Installation, (8) Colony Density, (9) Water, (10) Maintenance and Best Practice Requirements, (11) Education and Community Awareness, and (12) Prohibitions.
6. Any other or additional activity by the Licensee on the Property may be conducted only with the prior written approval of the Commission.
7. During the term of this License, Licensee releases the City from all claims and suits for damages, injuries, losses and costs by Licensee, his agents and contractors arising out of their presence on the Licensed Area, the maintenance or repair of the concrete slab, or any appurtenances created by Licensee



**LICENSE AGREEMENT  
BETWEEN THE CITY OF NEWTON AND MARK LEWIS  
RELATIVE TO THE DEERPARK POLLINATOR REFUGE AND APIARY**

WHEREAS, the City of Newton (the “City”) is the Owner of a parcel of land commonly known as Norumbega Conservation Area or Norumbega Park, said parcel having been acquired by Eminent Domain, the Taking being recorded with the Middlesex South Registry of Deeds at Book 13121, Page 634 and more fully described on a plan entitled, “Plan of Land, in Newton, Mass., Vacant Land (Norumbega) Between Islington Road and the Charles River for ACQUISITION BY EMINENT DOMAIN FOR CONSERVATION AND PASSIVE RECREATION PURPOSES . . . December 6, 1976, Joseph W. Moore Co., Land Surveyors – Civil Engineer . . . N78-37879” (the “Property”);

WHEREAS, the Property is more fully depicted in the plan attached hereto as **Exhibit A**;

WHEREAS, Vasyly and Alla Ohorilko of Needham, MA, experienced beekeepers (“Licensees”), propose to construct and maintain beehives on the Property;

NOW THEREFORE, in consideration of the covenants contained herein, be it agreed as follows:

1. The City, acting by and through its Conservation Commission (the “Commission”), without in any way releasing or abandoning its ownership and control of the land known Norumbega Conservation Area and shown in Exhibit A, hereby grants a license to Licensees to enter upon and maintain in the Licensed Area up to four (4) beehives , as more thoroughly detailed below. The Licensed Area is shown on the sketch plan attached hereto as **Exhibit B** (the “Licensed Area”).
2. Licensee agrees to post signs at the Woodbine Road entrance and the Islington Oval entrance noting the presence of beehives. Licensee shall seek and obtain approval for the text of the signs prior to posting.
4. Licensees shall maintain no more than four (4) full-size honeybee hives upon the Licensed Area, unless otherwise agreed upon in writing by the Parties. Licensees shall be responsible for all costs associated with the construction, maintenance, and removal of the hives; and the City shall bear no costs associated with the construction, maintenance, or removal of the hives.
5. Licensees agree to operate and maintain said hives in full compliance with the “Newton Conservation Commission Policy -- Apiaries on Newton Conservation Land -- Approved March 11, 2021” at all times and in all regards, including but not necessarily limited to: (1) Eligibility, (2) Application, (3) Non-Transferrable License, (4) Registration and Inspection, (5) Apiary Location, (6) Apiary Design, (7) Apiary Installation, (8) Colony Density, (9) Water, (10) Maintenance and Best Practice Requirements, (11) Education and Community Awareness, and (12) Prohibitions.
6. To support the Conservation Commission’s interest in gathering information on honeybee forage sources, the Licensees shall be encouraged to collect pollen samples for future analysis.
6. Any other or additional activity by the Licensees on the Property may be conducted only with the prior written approval of the Commission.
7. During the term of this License, Licensees release the City from all claims and suits for damages, injuries, losses and costs by Licensees, their agents and contractors arising out of their presence on the Licensed Area, or any appurtenances created by Licensees in connection with the beehives. Licensees

further agree to indemnify and defend the City against all claims and suits for damages, injuries, losses and costs arising in any way, wholly or in part, out of or caused, wholly or in part, or related in any way to Licensee's activity on the Property.

8. This License Agreement shall be in full force and effect as of the date executed below and shall continue through April 22, 2022.

9. The City, acting through the Commission, may revoke this license effective immediately for any breach or violation of any material term of this License agreement by Licensees.

10. Nothing contained herein shall limit the rights of the public to enter upon the Property that is not the subject of this License, to the extent and for the purpose(s) permitted by the Conservation Commission.

IN WITNESS WHEREOF, the parties have set their hands and seals to this instrument in duplicate originals.

**LICENSEES:**

  
\_\_\_\_\_  
Vasyl Ohorilko

  
\_\_\_\_\_  
Alla Ohorilko

**CITY OF NEWTON: By the Conservation Commission:**

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**APPROVAL:**

\_\_\_\_\_  
Ruthanne Fuller, Mayor

\_\_\_\_\_  
Date

Approved as to legal form and character:

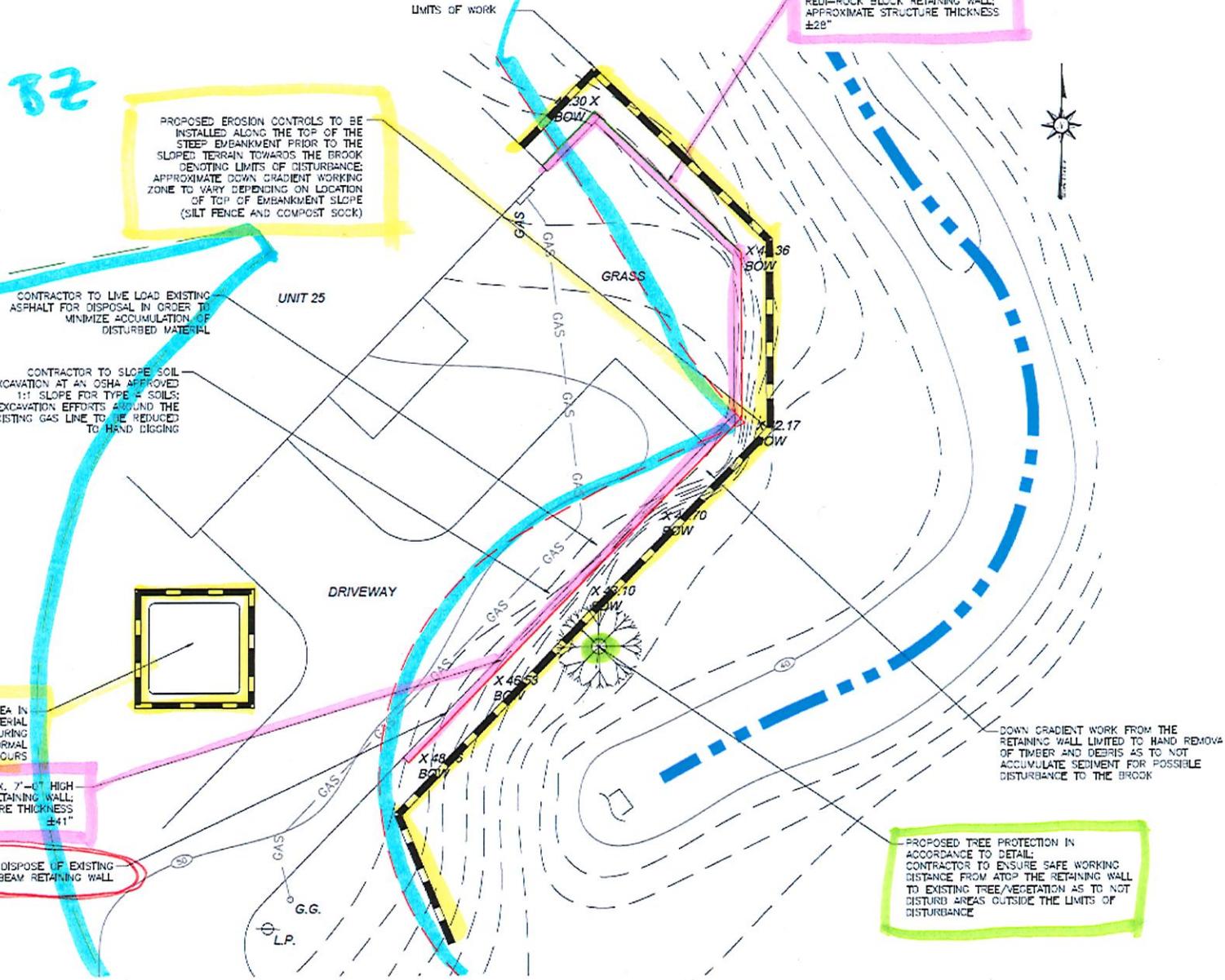
\_\_\_\_\_  
Assistant City Solicitor



50' BZ

25' BZ

- TENTATIVE WORK SEQUENCING:**
1. COORDINATION WITH ALL APPLICABLE REGULATORY FACILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
  2. INSTALL ALL EROSION CONTROLS, CATCH BASIN PROTECTION, AND VEGETATION PROTECTION IN ACCORDANCE TO APPROVED PLANS.
  3. REMOVE EXISTING TIMBER RETAINING WALL FROM ATOP THE EXISTING DRIVEWAY AS TO NOT IMPACT BEYOND THE RETAINING WALL ENVELOPE.
  4. CONTRACTOR TO ENSURE REMOVAL EFFORTS ARE DONE IN CONSIDERATION OF SOIL SLOPING AND WEATHER.
  5. INSTALL NEW REDI-ROCK RETAINING WALL IN ACCORDANCE TO MANUFACTURER'S SPECIFICATIONS.
  6. CONTRACTOR TO ENSURE THAT PROPOSED FRONT FACE OF NEW RETAINING WALL IS NOT ANY CLOSER THAN THE EXISTING RETAINING WALL TO THE WETLAND AREA TO THE SOUTH.
  7. RETURN EXISTING DISTURBED SOILS/VEGETATION WITHIN PROPOSED LIMITS OF DISTURBANCE TO EXISTING CONDITIONS TO MATCH INKIND TO SURROUNDING AREA; TO BE SEEDED UPON THE REQUEST OF THE COMMISSION.
  8. REMOVE ALL EROSION CONTROLS AND DEMOBILIZE SITE.



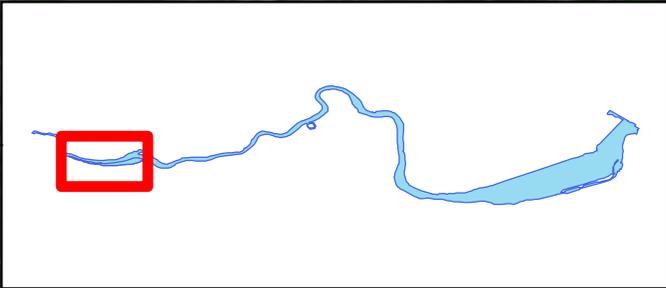
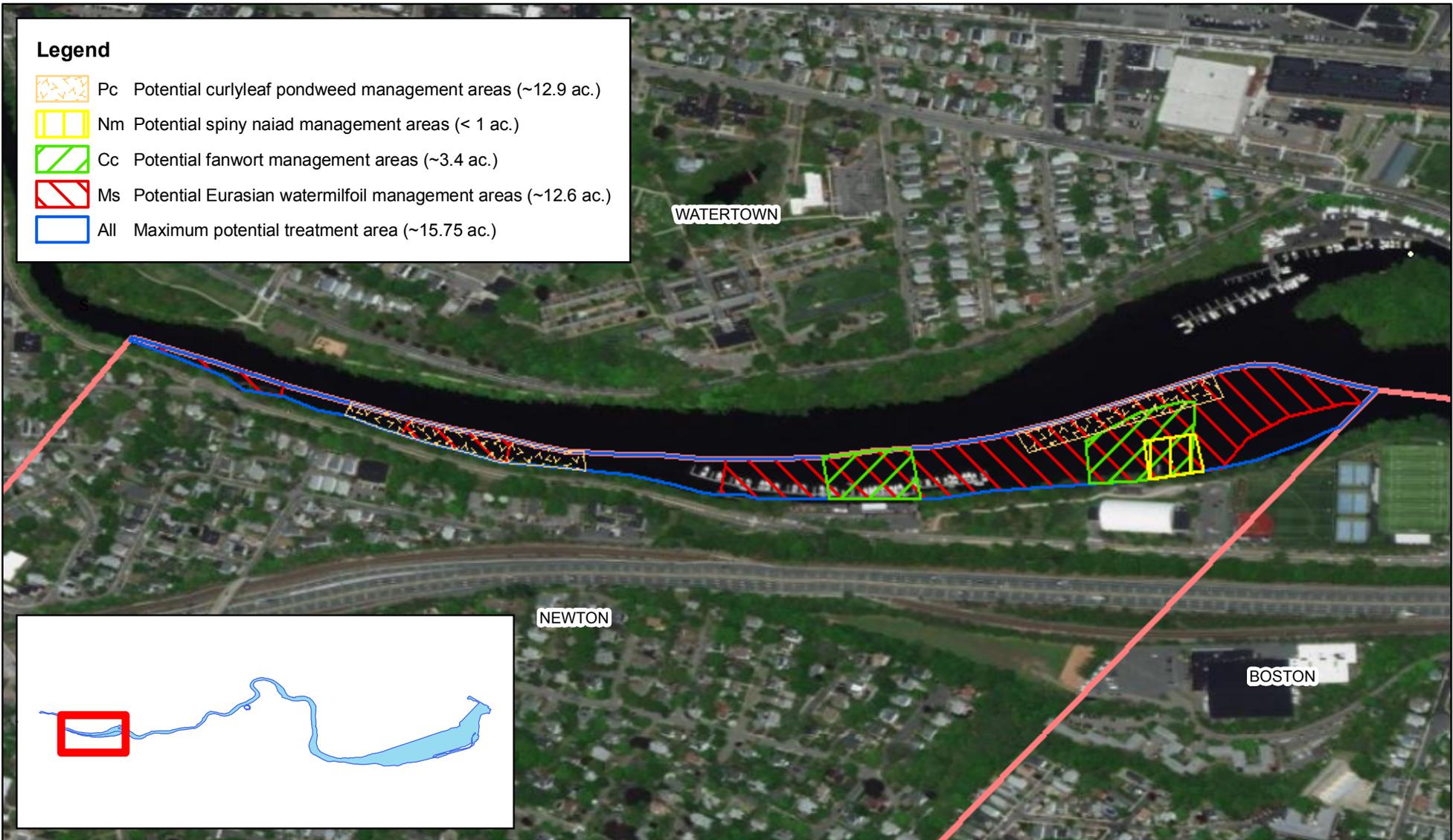
**LEGEND & ABBREVIATIONS**

- PROPERTY LINE
- EASEMENT LINE
- DRUMMEN BROOK PATHWAY
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- 7' HIGH MAX. RETAINING WALL
- 4' HIGH MAX. RETAINING WALL
- EXISTING GAS LINE
- PROPOSED EROSION CONTROLS/LOD
- X 100.00 T.O.W.
- X 150.00 B.O.W.
- WEIR AND

# Charles River (Newton) - Potential Treatment Areas

## Legend

-  Pc Potential curlyleaf pondweed management areas (~12.9 ac.)
-  Nm Potential spiny naiad management areas (< 1 ac.)
-  Cc Potential fanwort management areas (~3.4 ac.)
-  Ms Potential Eurasian watermilfoil management areas (~12.6 ac.)
-  All Maximum potential treatment area (~15.75 ac.)



Charles River  
Newton, Watertown,  
Cambridge, & Boston, MA  
Middlesex & Suffolk  
Counties



## Charles River - Lower Basin

1:7,323



Map Date: 7/26/21  
Prepared by: KMS  
Office: SHREWSBURY, MA

## 1.0 INTRODUCTION

The “Applicant”, the Massachusetts Department of Conservation and Recreation - Lakes and Ponds Program (DCR), is seeking approval to initiate an Aquatic Vegetation Management Program in the Lower Basin of the Charles River.

The objective of the management program is to provide site specific control of growth of submersed non-native and invasive aquatic plant species, to restore and improve the natural capacity of the Charles River to provide suitable open water and native plant habitat. Based on the type, distribution, and density of the current vegetation assemblage within the Lower Basin of the Charles River, it has been concluded that the restoration goals of the Applicant can best be achieved through an integrated management plan focused on monitoring and the prudent use of USEPA/MA Department of Agricultural Resources (MDAR) registered aquatic herbicides and algaecides.

The proposed project has been filed as an Ecological Restoration Limited Project under 310 CMR 10.53(4) and will sustain the interests identified in the Wetland Protection Act (MGL c.131 s.40) by controlling a nuisance species, improving fish habitat, improving water quality and slowing waterbody eutrophication.<sup>1</sup> The presence of invasive species within the Lower Basin of the Charles River likely results from direct anthropogenic influences including the River's high recreational use via boats which spread invasive aquatic plant species, unintended but increased nutrient input from surrounding developed land and roadways, and the possible innocent dumping of aquarium trade plant species. It is important to remember that “no amount of watershed management will control an existing infestation of rooted macrophytes.

- Rooted aquatic plant growth are not controlled by clean water
- Increased water clarity may extend plant growth
- Watershed management complements in-lake management.”<sup>2</sup>

## 2.0 SITE DESCRIPTION

The Charles River begins in Hopkinton and flows generally eastward through 23 cities and towns, over approximately 80 miles in total, before reaching the Atlantic Ocean in Boston Harbor. The Lower Basin, which is the focus of this Notice of Intent, is being defined as the area from the Watertown Dam in Watertown to the New Charles River Dam (Appendix B – Figure 1). This section of the Charles River is an urban waterway with varying densities of submersed and floating leaf aquatic vegetation growing along the sides of the main

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<sup>1</sup> Department of Environmental Protection. Guidance for Aquatic Plant Management in Lake and Ponds as it Relates to the Wetlands Protection Act: April 2004, 1p.

<sup>2</sup> Practical Guide to Lake Management in Massachusetts, Commonwealth of Massachusetts, Executive Office of Environmental Affairs, 2004, p. 22.

channel and in the shallower eddies created after constriction points. Although the River flows slowly overall, these shallow littoral areas are areas of slower moving water composed of nutrient rich sediment that support sparse to dense growth of non-native and native submersed vegetation.

The shoreline along the Lower Basin supports extensive urban development beyond the parks systems and vegetated buffer along the river's edge. The Lower Basin is frequently used for boating, fishing, research efforts and passive wildlife viewing; swimming in the Charles River is currently only allowed if a permit is obtained due to safety issues.

On September 9-12, 2019, a vegetation survey, utilizing point-intercept methods, was conducted on the Lower Basin of the river. A list of the plant species documented during that survey is provided in the following table. Species maps depicting location and abundance are attached.

<b>Macrophyte Inventory for Charles River – 2019</b>	
<b>Common Name</b>	<b>Scientific Name</b>
Fanwort	<i>Cabomba caroliniana</i>
Water Starwort	<i>Callitriche sp.</i>
Coontail	<i>Ceratophyllum demersum</i>
Macroalgae	<i>Chara/Nitella sp.</i>
Common Waterweed	<i>Elodea canadensis</i>
Aquatic Moss	<i>Fontinalis sp.</i>
Small Duckweed	<i>Lemna minor</i>
Variable Watermilfoil	<i>Myriophyllum heterophyllum</i>
Eurasian Watermilfoil	<i>Myriophyllum spicatum</i>
Southern Naiad	<i>Najas guadalupensis</i>
Brittle Naiad	<i>Najas minor</i>
White Waterlily	<i>Nymphaea odorata</i>
Curly-leaf Pondweed	<i>Potamogeton crispus</i>
Ribbon-leaf Pondweed	<i>Potamogeton epihydrus</i>
Clasping-leaf Pondweed	<i>Potamogeton perfoliatus</i>
Small Pondweed	<i>Potamogeton pusillus</i>
Tapegrass	<i>Vallisneria sp.</i>
Benthic Filamentous Algae	Various

Red indicates invasive status

Overall, vegetation was only present within 64% (355 of 555) of the sites within the calculated littoral zone. Of the eighteen species, observed within the littoral zone of the river, six were invasive species. Consequently, Eurasian watermilfoil, southern naiad, and brittle naiad are the three most dominant species within the system. Fanwort, curly-leaf

pondweed, and variable watermilfoil were observed at a low frequency of sites – this could be a factor of competition with other non-native vegetation within the river, or early-stage infestation. Curly-leaf pondweed is also a cold-water species and usually dies back by early June-July in its northern region. A wider distribution of curly-leaf pondweed likely occurs earlier in the season throughout the river.

The twelve native plants are primarily comprised of submersed aquatic species, in addition to macroalgae, moss, and two floating-leaf species. White waterlily is the dominant native macrophyte within the Lower Basin, however, it was only documented at 9% (50 of 555) of the sample sites. All other native species were observed at less than 9% of the sites.

Additionally, non-native emergent vegetation growth is present along many areas of the shoreline. Growth of Japanese knotweed (*Fallopia japonica*), common reed (*Phragmites australis*), and purple loosestrife (*Lythrum salicaria*) occur sporadically along the entire shoreline of the Lower basin. Common reed becomes increasingly more prominent and more established further downstream towards the area of The Esplanade.

<b>General Site Characteristics - Lower Basin of the Charles River<sup>3</sup></b>	
Surface Area (acres)	Approximately 705
Estimated Mean Depth (feet)	6
Estimated Volume	4,230 ac-ft 1.38 billion gallons
Dominant Plant Species	Eurasian watermilfoil Southern naiad Spiny/brittle naiad Filamentous algae

There currently is a floating wetland island pilot project in the Cambridge portion of the Lower Basin, between the Longfellow Bridge and Museum of Science. That project has been taken into consideration for the management approaches included in this filing so any impacts can be avoided to the best of our ability. Information as it relates to potential impacts is included in later sections.

### 3.0 PROBLEM STATEMENT

Based on the results of a 2019 vegetation survey, the invasive macrophyte assemblage dominates the aquatic plant growth within the project area. This abundance of invasive plant species and their aggressive colonization habits pose a significant threat to native plant populations, recreational access/useability, and general water quality conditions within the river. In fact, due to the increasing colonization by these invasive species and the resulting increase in overall plant abundance, many of the user and advocate groups

<sup>3</sup> Estimates based on observed and reported conditions

associated with the Lower Basin have expressed concerns over long-term ecological impacts and potential boating and safety hazards. For these reasons DCR believes that immediate management intervention is necessary to restore species diversity and mitigate future degradation of the resource.

#### **4.0 PROPOSED MANAGEMENT PROGRAM**

##### 4.1 Program Overview:

Multiple (5)-year approval is requested for the implementation of an integrated Aquatic Management Program at the Lower Basin of the Charles River. The goal of the management program is to control growth of invasive, non-native plant species to improve and maintain open water habitat, promote the growth of less pervasive plant species, and provide safe recreational access throughout the river. This management program has been developed to be compatible with the long-term preservation of the resource area and the regulatory interests of the Wetlands Protection Act and the individual communities (Newton, Watertown, Cambridge and Boston) affected by the project. All the proposed management strategies presented in this filing are approved methodologies in the Commonwealth and are included within the *Massachusetts Final Generic Environmental Impact Review*.

As the jurisdiction of this project spans four municipalities, the following management options sought for approval are applicable for all towns based on the species present through the entire Lower Basin. However, community specific information is provided to illustrate the scope of the initial management phase within each specific community. Effective long-term management of dynamic aquatic systems requires program modifications to best address evolving target plant and environmental conditions. For this reason we have included an outline of contingent strategies for future review and consideration by the Commissions should conditions warrant their use beyond the initial phase of management.

##### 4.2 Vegetation & Water Quality Monitoring:

Effective monitoring is the cornerstone of any successful aquatic management program, as the data collected provides the foundational basis on which to evaluate the feasibility of available management strategies. However, beyond initial program design, repeatable and quantifiable monitoring data is critical to evaluating the program impacts on target and non-target species. This information is critical to adaptive long-term management and ensuring that the established goals of the project are being achieved as site conditions change over time. For this reason, the proposed project will incorporate a robust monitoring component consisting of annual vegetation surveys and pre & post treatment water quality testing.

#### 4.2.1 Vegetation Surveys

Each management season, at least one pre-management survey of the Lower Basin will be conducted towards the beginning of the growing season to assess the overall aquatic invasive species growth. This visual survey will focus on accurately determining the areal extent of the targeted invasive plant species. WAAS enabled GPS will be used to geospatially reference the perimeter of various invasive plant beds within the project area. This information will culminate into target plant bed and management area maps. These data will be used to inform the annual management effort throughout the program.

Throughout the course of annual management activities, interim surveys will be conducted to qualitatively document the progress of the annual management effort and confirm no unintended non-target impacts.

At or near the conclusion of active management and the growing season, a post-management survey of the Lower Basin will be conducted. This survey will replicate the 555 point-intercept survey established during the 2019 survey effort. This survey methodology allows for the collection of a repeatable and quantifiable data set excellent for monitoring changes and identifying trends in species distribution and density over time. This aquatic plant survey method was developed by the US Army Corp of Engineers and Cornell University specifically for monitoring aquatic vegetation and has long been the industry standard. In fact, this survey methodology is preferred by management project stakeholders and regulatory agencies (NYS DEC & NYC DEP).

The Point-Intercept Method (PIM) is designed to determine the extent of submersed aquatic plant growth within an area of concern. The total number of survey points is typically based on the total acreage of a waterbody, where one sample location per acre is surveyed at a given site. According to the 2019 biovolume mapping, the littoral zone is restricted to the shoreline and areas less than 6 feet deep presumably due to water clarity and flow. Point-intercept locations within the river will be determined by a 60-meter grid data layer placed over an orthophoto of the Lower Basin.

Two rake tosses will be conducted at each site for enhanced detection of target species and other less frequently occurring species. Each species collected will be identified and categorized using the relative abundance scale (below) defined by this methodology

- Z Zero: No plants on rake
- T Trace: Fingerful on rake
- S Sparse: Handful on rake
- M Medium: Rakeful of plants
- D Dense: Difficult to bring into boat

As is the practice on all of DCR's aquatic vegetation management programs, the Lakes and Ponds program staff will routinely inspect site conditions throughout the course of the

project. DCR Lakes and Ponds staff will also use best professional judgment when conducting spot checks of consultant/contractor vegetation survey and treatment results to ensure the data reported is the highest level of accuracy possible.

#### 4.2.2 Water Quality Monitoring

The Lower Basin of the Charles River is under the jurisdiction of the Massachusetts Division of Marine Fisheries (DMF) because of anadromous fish migration and spawning. DMF has not required a formal water quality monitoring plan if treatments are conducted outside the prescribed Time of Year (TOY) restrictions (April 1-June 30 & September-1 November 15). At present, we anticipate that effective target plant control can be achieved using the proposed strategies while abiding by the DMF TOY restrictions. However, DCR and their contractor will look to consult other available water quality data being gathered by other groups (Charles River Watershed Association and USEPA) to best inform ongoing management practices.

#### 4.3 Phase I Aquatic Vegetation Management

The initial phase of management will be comprised of a 2-3 year effort consisting of area-selective control of invasive milfoil growth with ProcellaCOR EC (florpyrauxifen-benzyl) in late summer of 2021 and whole basin treatment with Sonar (fluridone) to manage the entire invasive plant assemblage within the project area (2022 and/or 2023). This larger scale management effort utilizing Sonar is anticipated to include the Lakes District portion of the river, pending receipt of approved permits.

The proposed Phase I herbicides specifically affect the target species to be controlled and have a negligible effect on the non-target species and wildlife when applied in accordance with the label directions. All products will be applied at low doses (below maximum label rate) intended to provide the greatest impact on target species while minimizing the effects on native non-target species. Prior to the initial and any subsequent applications, a License to Apply Chemicals permit will be obtained from MA Department of Environmental Protection.

No significant alteration to the wetland resource areas will occur as a result of the proposed aquatic plant management program; instead, the resource areas will be enhanced by controlling non-native, invasive aquatic plant species, improving water quality, and improving wildlife habitat.

4.3.1 Anticipated Project Schedule

Year	Phase	Timing	Task
2021	I	August	Pre-management vegetation survey of the entire Lower Basin, pending receipt of approved OOCs
		August	Meeting with Conservation Commission to give update on tentative management plan based on survey results
		August/Sept.	ProcellaCOR spot treatment application for milfoil control
		September	Post-management point-intercept survey of the entire Lower Basin
		December	Year-end reporting
2022	I	Spring	Application and issuance of OOCs for management of the Lakes District portion of the River
		May/June	Pre-management vegetation survey
		May/June	Meeting with Conservation Commission to give update on tentative management plan based on survey results
		July	Initiate low-dose whole-river Sonar treatment program to comply with DMF time of year restrictions
		August	Sonar booster applications, as necessary based on results and monitoring
		September	Post-management point-intercept survey
		December	Year-end reporting
2023	II	May/June	Pre-management vegetation survey
		May/June	Meeting with Conservation Commission to give update on tentative management plan based on survey results
		July	Initiate low-dose whole-river Sonar treatment program to comply with DMF time of year restrictions
		August	Sonar booster applications, as necessary based on results and monitoring
		September	Post-management point-intercept survey
		December	Year-end reporting
2024/ 2025	II	May/June	Pre-management vegetation survey
		May/June	Meeting with Conservation Commission to give update on project and present any proposed modifications to the management plan based on survey results
		July/August	Spot treatment applications likely with ProcellaCOR and/or Sonar for milfoil and/or fanwort control, respectively, to comply with DMF time of year restrictions
		September	Post-management point-intercept survey
		December	Year-end reporting

4.3.2 Anticipated Management Area(s)

The following table provides maximum total management area for each community and the specific area associated with each dominant invasive species as shown in the 2019 point intercept survey (see attached revised maps)

<b>Community (Town/City)</b>	<b>Target Invasive Species</b>	<b>Total Area (acres)</b>
<b>Newton</b>	<b>Max. Treatment Area</b>	<b>15.75 ac.</b>
	Curlyleaf pondweed	12.9 ac.
	Eurasian watermilfoil	12.6 ac.
	Fanwort	3.4 ac.
	Spiny naiad	<1.0 ac.
<b>Watertown</b>	<b>Max. Treatment Area</b>	<b>68.9 ac.</b>
	Eurasian watermilfoil	33.9 ac.
	Fanwort	5.3 ac.
	Spiny naiad	3.0 ac.
	Curlyleaf pondweed	2.1 ac.
<b>Cambridge</b>	<b>Max. Treatment Area</b>	<b>309.0 ac.</b>
	Spiny naiad	44.2 ac.
	Eurasian watermilfoil	32.2 ac.
	Fanwort	2.5 ac.
<b>Boston</b>	<b>Max. Treatment Area</b>	<b>200.3 ac.</b>
	Eurasian watermilfoil	100.3 ac.
	Spiny naiad	32.6 ac.
	Fanwort	6.6 ac.

#### 4.3.3 Proposed Phase I Products and Management Techniques

The use of chemicals to control nuisance aquatic plant and algae growth is probably the most widely used management strategy for waterbodies with submersed aquatic plant infestations that are beyond effective control with smaller scale non-chemical techniques like hand-pulling, suction harvesting or bottom barriers. In the case of the Lower Basin, those three non-chemical techniques are not applicable due to safety concerns for those physically involved in the undertaking of each activity. Herbicides that are registered for aquatic use must meet strict federal guidelines and demonstrate that there is not an “unreasonable risk” to humans and the environment when applied in accordance with their product label. According to Madsen (Madsen 2000), “currently no product can be labeled for aquatic use if it poses more than a one in a million chance of causing significant damage to human health, the environment, or wildlife resources. In addition, it may not show evidence of biomagnification, bioavailability or persistence in the environment”.

#### **Hand-Pulling for Water Chestnut Removal**

Similar to mechanical harvesting, as water chestnut plants develop and drop a nutlet (seed) structure on an annual basis, hand-pulling of plants via boat from the water’s surface can be an effective means of control. Typically, water chestnut plants surface towards the end of June. Once the plants reach the surface, they can be effectively hand-pulled. The floating rosette of leaves and much of the roots can be easily lifted from the water and placed into an onboard storage container within the collection boat. Once the onboard storage is at capacity, it can be brought to shore and allowed to dry for a short time before being transported to an upland location for composting and/or disposal as necessary.

For the Lower Basin of the Charles River, hand-pulling will be conducted on scattered water chestnut plants on an as-needed basis. Based on the levels of growth observed in 2019 we do not anticipate that hand-pulling will require a significant amount of effort (<2 days of work per year). Hand-pulling is effective when the distribution and abundances are relatively low, as it is a labor-intensive method that loses efficacy once the amount of growth expands significantly. Additionally, hand-pulling is a good strategy to be utilized for areas that a mechanical harvester may not be able to access (i.e., immediate shoreline areas, shallower waters, etc.).

If water chestnut growth is scattered and at trace or sparse density, a maximum of approximately an acre of area is able to be covered by a two-person hand-pulling crew per day. If the growth is moderate, a maximum of approximately one quarter to one half of an acre can be covered by a two-person crew per day. If the growth is dense, a maximum of approximately one tenth of an acre can be covered by a two-person crew per day.

### **Impacts Specific to the Wetlands Protection Act using Hand-Pulling**

- Protection of public and private water supply – Generally neutral (no significant interaction), although reduced plant density may benefit taste and odor control and minimize clogging of intakes
- Protection of groundwater supply – Generally neutral (no significant interaction)
- Flood control – Generally neutral (no significant interaction)
- Storm damage prevention – Generally neutral (no significant interaction)
- Prevention of pollution – Generally neutral (no significant interaction)
- Protection of land containing shellfish – Generally neutral (no significant interaction)
- Protection of fisheries – Potential benefit by habitat improvement (may have benefit and detriment to different species in same waterbody from same effort)
- Protection of wildlife habitat – Potential benefit by habitat improvement, but may have benefit and detriment to different species in same waterbody from same effort

### **Florpyrauxifen-benzyl (ProcellaCOR EC - EPA # 67690-80 or equivalent)**

ProcellaCOR (florpyrauxifen-benzyl) is a recently registered herbicide in Massachusetts and is an effective, milfoil selective, systemic herbicide. After receiving its full aquatic registration from the EPA in February 2018, ProcellaCOR was used in numerous locations throughout the country for control of milfoil and other susceptible invasive aquatic plants. In 2018 in New England, SŌLitude applied ProcellaCOR at approximately a dozen locations in New Hampshire and Connecticut for the control of variable milfoil and Eurasian watermilfoil. In 2019, ProcellaCOR was registered for use in Massachusetts and SŌLitude applied ProcellaCOR at many waterbodies in Vermont, New York, New Hampshire, Massachusetts, Maine, and Connecticut. Results of all treatments performed in the Northeast to date by SŌLitude (approximately 100) have been extremely positive, achieving nearly complete control of targeted milfoil growth with little or no impact to non-target native plants.

ProcellaCOR will be applied to the areas of milfoil growth at or below the permissible label dose (maximum label rate is 25 PDU/ac-ft). A PDU is a prescription dose unit, which is a unit of measurement that SePRO developed for ease of calculations in the field. One PDU is equal to 3.17 ounces. Due to the limited contact-exposure time required for control of the target species, concentrations only need to be maintained for hours to several days to achieve management. The anticipated application rates for ProcellaCOR in the Lower Basin of the Charles range from 2 to 4 PDU/ac-ft. Each treatment area will be dosed accordingly based on its density of milfoil plants, density of native plants, configuration, amount of surface area, potential for dilution, average depth and any other influencing factors. The ProcellaCOR label indicates that the rate is also determined based on the acreage of the entire "waterbody" as well as area of influence – each of those will be factored into the decision on application rate for each treatment area.

The only water use restrictions listed on the current ProcellaCOR™ EC label are all centered around the use of ProcellaCOR treated water for irrigation purposes. There are no restrictions on using ProcellaCOR treated water for drinking water, swimming or fishing. Irrigation restrictions vary depending on what is being irrigated. Turf may be irrigated immediately after treatment without

restriction. Irrigation of landscape vegetation and other non-agricultural plants can occur once ProcellaCOR concentrations are determined to be less than 2 ppb or by following a waiting period that is 7 days for the use rates being proposed. The shoreline of the waterbody will be posted with signs warning of these temporary water-use restrictions, prior to treatment. Based on ProcellaCOR's Reduced Risk classification profile issued by the US EPA and its overall brief presence within the water (24-48 hours maximum; reported photolytic half-life is 0.07 days or 1.68 hours), there are no cumulative adverse impacts anticipated to affect the river as a resource for its users.

Based on the ecotoxicological testing completed for ProcellaCOR, there was no toxicity observed for avian, fish, or other species exposed to the product during both short and long-term studies. It should be noted that these testing efforts included higher concentrations than even those available at the maximum label rate.

The herbicide is quickly absorbed by the target vegetation and translocated within the plant. The mode of action of the herbicide causes impacted vegetation to lose structural integrity at growth nodes. Residual levels of the herbicide in treated water decline rapidly and reduction is due to the uptake by the targeted vegetation and degradation.

Following treatment efforts, the plants within the treatment areas would be anticipated to follow a similar decomposition timeline as follows: within a week of treatment – EWM plants are anticipated to be leaning over within the water column; within two weeks of treatment – EWM plants are anticipated to be leaning and more fallen over within the water column, beginning to brown and get discolored, and if touched, the plants would be anticipated to easily break apart, however fragments of these plants are no longer viable; within three weeks of treatment – EWM plants are anticipated to be completely fallen within the water column and be difficult to find even along the bottom sediment. As a result of the timeframe of decomposition, and minimal amount of area to be managed utilizing ProcellaCOR relative to the overall waterbody acreage, there is no additional concern for an algal bloom beyond what may be present in any one given year at a waterbody of the Lower Basin's nature.

Excellent selectivity and minimal impact to non-target species has been demonstrated with ProcellaCOR treatments that have been performed in the Northeast to date. Of the species reported in the Lower Basin of the Charles River in 2019, the only plants that may show some impact following treatment are coontail (*Ceratophyllum demersum*), and white waterlilies (*Nymphaea odorata*). Coontail is typically not impacted by ProcellaCOR treatments except when using rates of 4+ PDUs/ac-ft, while the white waterlilies may show some discoloration (yellowing) and twisting, depending on their proximity to the treatment area(s), before outgrowing the symptoms. Waterlilies are a hardy and resilient species, with significant root systems, and can easily rebound from the typical impacts of a ProcellaCOR herbicide treatment.

It is anticipated that treatment areas would experience multiple years of control following one treatment effort. However, it is understood that any fragments entering the treated area(s) from unmanaged areas elsewhere in the Lower Basin or upstream in the River may allow for the population to be reestablished within that area.

**Impacts Specific to the Wetlands Protection Act using Florpyrauxifen-benzyl**

- Protection of public and private water supply – Neutral (no significant interaction)
- Protection of groundwater supply – Generally neutral (no interaction)
- Flood control - Neutral (no significant interaction)
- Storm damage prevention – Neutral (no significant interaction)
- Prevention of pollution – Generally neutral (no significant interaction), but could be a detriment if plant die-off causes low oxygen at the bottom of the river
- Protection of land containing shellfish - Generally neutral (no significant interaction), but reduced algae might reduce food resources for shellfish, and direct toxicity is possible under unusual circumstances
- Protection of fisheries - Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover)
- Protection of wildlife habitat – Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover)

**Fluridone (Sonar – EPA # 67690-4 or equivalent)**

Fluridone is a systemic herbicide that offers long-term control on invasive (Eurasian watermilfoil, fanwort) and nuisance aquatic vegetation. Fluridone also provides annual control of curlyleaf pondweed and spiny/brittle naiad, but as these species germinate from seed each season, it is not considered systemic control. Fluridone has also been observed to regulate the growth of water chestnut if the fluridone treatment program is initiated prior to the water chestnut rosettes reaching the water surface.

This herbicide hinders the ability of susceptible plants to produce carotene which protects chlorophyll from photodegradation, which results in mortality and subsequent long-term control of the targeted species (i.e., directly impacts the standing population and prevents future spread). This process is known as chlorosis and may be observed visually as the plant begins to lose its green color and take on a white or pink shade. Fluridone requires an extended contact time (45-90 days), so it has historically been used for low-dose, whole-pond treatments where dilution and contact time are more predictable, however, new granular formulations do allow for more effective spot-treatment as well. A series of low-dose applications (booster treatments) would be required to provide the effective contact time within the Lower Basin, likely 3-4 depending on water flow and timing.

Fluridone, when applied at recommended dosages, is generally viewed as having one of the most environmentally friendly toxicology profiles of all products currently on the market. The US EPA has approved a limit of 150 ppb to be allowed in water used for drinking. Concentrations in the range of 5-10 ppb will be targeted for the control of the invasive species assemblage present in the Lower Basin. Understanding that MA DMF has placed a time-of-year restriction on management activities, the treatment program will not be initiated

until after the end of the restricted period - June 30th. Additionally, the slow staggered rate of mortality associated with Sonar treatment eliminates the potential for low dissolved oxygen related stress to fish and other aquatic wildlife.

Presently, liquid and slow-release granular formulations of this herbicide are available and included under this management plan. For granular applications, the herbicide will be placed into a circular spreader mounted to the bow of the treatment vessel and evenly distributed over the surface of the treatment area. Using the pellet formulations, the active ingredient is gradually released off the clay carrier pellet over a period of several weeks. This allows for a controlled and extended exposure to fluridone concentrations. For aqueous applications to smaller acreage amounts, the herbicide will be placed into an onboard mixing tank, mixed with river water and evenly distributed throughout the surface of the treatment area via boat. This herbicide will be applied under the water surface through trailing hoses, minimizing the chance of herbicide drift and assuring accurate placement over the target species.

For larger aqueous fluridone applications, an onshore, temporarily placed injection unit may be utilized. This unit would allow for more frequent, but lower dose applications to be automatically conducted over the course of many days to months. The injections are calibrated based on the formulation of product to be used, can be remotely operated via mobile device, and can be stopped or postponed as needed based on storm or higher water flow events that could otherwise impact the treatment program. The setup and configuration of the unit would be coordinated in advance with SePRO (manufacturer of Sonar) staff to ensure the more effective application to the Lower Basin. Injection units like this have been utilized by SOLitude staff for various fluridone treatments to the Croton River (New York City drinking water supply for New York State Department of Environment Conservation) and Delaware & Raritan Canal (New Jersey drinking water supply for New Jersey Department of Environmental Protection).

Where this would be a long-duration, low-concentration treatment program, adjustments in the planned treatment protocol may be needed to accommodate changes in plant response or varying water flow and water volume turnover.

Fluridone water use restrictions include no application within one-quarter mile of a potable water intake and no use of treated water for irrigation purposes within 30 days of application. Although there are no restrictions on swimming, boating or fishing, prudent use suggests that we recommend minimal recreational use for the day of treatment. The shoreline of the river will be posted with signs warning of these temporary water use restrictions, prior to treatment.

Water samples will be collected from multiple locations within the treatment area throughout the treatment program to test for fluridone residues using the manufacturer's FasTEST procedure. Results of these analyses will help guide subsequent booster applications.

**Impacts Specific to the Wetlands Protection Act using Fluridone<sup>4</sup>**

- Protection of public and private water supply – Generally neutral, but may have detriment at high doses (prohibition within ¼ -mi. of drinking water intakes at doses >20 ppb)
- Protection of groundwater supply – Generally neutral (no significant interaction)
- Storm damage prevention – Neutral (no significant interaction)
- Prevention of pollution – Generally neutral (no significant interaction)
- Protection of land containing shellfish - Generally neutral (no significant interaction)
- Protection of fisheries - Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover)
- Protection of wildlife habitat – Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover)

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<sup>4</sup> Commonwealth of Massachusetts Executive Office of Environmental Affairs. *Practical Guide to Lake Management*: 2004. 133 p.

## 5.0 PHASE II - CONTINGENT MANAGEMENT TECHNIQUES FOR FUTURE CONSIDERATION

Ongoing management of this well-established invasive plant community will most certainly be required beyond the initial Phase I management effort, as true eradication of this infestation is likely not an attainable goal. For this reason we have included a variety of management strategies that we believe may be necessary to effectively address smaller areas of remaining target plant growth and/or small patches of regrowth or recolonization following Phase I. In this Phase II of the program the annual management approach will be commensurate with the type, location, and abundance of the target vegetation growth; therefore, a level of flexibility on which strategy or combination of strategies will be important to the further reduction of the invasive plants and sustained long-term control.

In Phase II of the program the annual vegetation monitoring will drive the evaluation and ultimate selection of the annual management techniques employed. As such, it would be our intention and expectation to meet with the Commission for their review and approval of the proposed annual plan each time a new strategy becomes necessary. Below is a table outlining the contingent strategies that we believe may be required at some point during the course of this 5-year program. We have also provide a brief outline of the scenarios where they may likely be needed in future management. Additional general information on these strategies is provided in the sections below.

Contingent Management Strategy	Anticipated Potential Use
Tribune (diquat) Herbicide	This product is fast-acting and therefore allows for effective small scale treatment in a moving water scenario. As a result, this product may be used to provide rapid "emergency" level control in areas where the invasive species growth has potential to interfere with public events and recreational user safety (i.e. Head of the Charles).
Clearcast (imazamox) herbicide	May be used to control water chestnut growth that is too widespread for manual hand-pulling and/or inaccessible to larger mechanical harvesting equipment.
Red Eagle (Flumioxazin) herbicide	This product is the only herbicide that would be effective at selectively managing small areas of fanwort growth in a flowing system like the river. It therefore would be used to manage small areas of fanwort regrowth that cannot be effectively managed with Sonar (extended contact time).
Algaecides (copper & peroxide)	These would be employed to address harmful cyanobacteria blooms should they arise.
Mechanical Harvesting	This technique would potentially be employed if water chestnut growth became dense and widespread in more open water areas absent of vegetative reproducing invasive submersed species.

### **Diquat (Tribune - EPA # 100-1390 or equivalent)**

Tribune (diquat) is an effective herbicide for spot-application treatments due to its rapid mode of action and short herbicide concentration-exposure-time requirements. Even though diquat is classified as a contact herbicide, longer term control may be seen as plants' root crowns will not be allowed to develop.

The USEPA/MA registered herbicide diquat dibromide will be applied to the area at or below the permissible label dose. Tribune is a widely used herbicide, applied to greater than 500 lakes and ponds annually, throughout the northeast, to control nuisance submersed aquatic plants. At this time, there are no immediate plans to utilize diquat within the Lower Basin of the Charles River. However, as diquat is a valuable tool in the aquatic plant management toolbox, we are including it in the event an appropriate and justified need arises. Diquat is able to control milfoil, curly-leaf pondweed, or spiny/brittle naiad and other nuisance submersed plants at the application rate of 1.0-2.0 gal/acre, if necessary. Ultimately, diquat would likely only be used to control curly-leaf pondweed and/or spiny/brittle naiad, if necessary, during non-fluridone treatment years (as fluridone is also able to control these species on an annual basis). Milfoil spot-treatments will be conducted using ProcettaCOR.

Temporary water use restrictions for diquat are: 1) No drinking or cooking for 3 days, 2) No irrigation of turf for 3 days and of food crops for 5 days, and 3) No livestock watering for 1 day. There are no restrictions on swimming, boating, or fishing, but prudent herbicide/algaecide management suggests that we recommend avoiding use of the treatment area(s) on the day of treatment. The shoreline will be posted with signs warning of these temporary water use restrictions, prior to treatment.

Diquat is translocated to some extent within the plant. Its rapid action tends to disrupt the leaf cuticle of plants and acts by interfering with photosynthesis. Upon contact with the soil, it is adsorbed immediately and thereby biologically inactivated. Residual levels of diquat in treated water decline rapidly and their reduction is due to the uptake by the targeted vegetation and adsorption to suspended soil particles in the water or on the bottom mud. Photochemical degradation accounts for some loss under conditions of high sunlight and clear waters.

#### **Impacts Specific to the Wetlands Protection Act using Diquat<sup>5</sup>**

- Protection of public and private water supply – Benefit (water quality improvement)
- Protection of groundwater supply – Neutral (no interaction as diquat is adsorbed to soil particles)
- Flood control - Neutral (no significant interaction)
- Storm damage prevention – Neutral (no significant interaction)

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<sup>5</sup> Commonwealth of Massachusetts Executive Office of Environmental Affairs. *Practical Guide to Lake Management*: 2004. 124 p.

- Prevention of pollution – Generally neutral (no significant interaction), but could be a detriment if plant die-off causes low oxygen at the bottom of the lake
- Protection of land containing shellfish - Generally neutral (no significant interaction), but reduced algae might reduce food resources for shellfish, and direct toxicity is possible under unusual circumstances
- Protection of fisheries - Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover)
- Protection of wildlife habitat – Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover)

### **Imazamox (Clearcast – EPA # 241-437-67690)**

The USEPA/MA registered systemic herbicide Imazamox will be applied to the area at or below the permissible label dose. Imazamox would be applied to control invasive water chestnut growth at the application rate of 1.5 lbs ae/acre (approximately 1 gal/ac.), if necessary. At this time, there is no immediate plan to utilize Clearcast in the Lower Basin as water chestnut growth is anticipated to be managed via hand-pulling efforts. If and/or when water chestnut growth expands significantly, Clearcast may be utilized for control. Clearcast can be a more financially feasible option to managing large areas of growth as opposed to mechanical harvesting. Additionally, Clearcast is a great option for managing water chestnut growth that may be inaccessible to a mechanical harvester and/or hand-pulling.

As Clearcast would be applied as a foliar application that is conducted using a hand-held gun sprayer from a low-volume pump system, the herbicide would be diluted onboard the treatment boat with river water and a spray adjuvant would be added to ensure the product adheres to and remains on the water chestnut rosettes for maximum uptake. Treatment is usually conducted between the end of June and the end of August – once the rosettes have surfaced, but prior to the nutlets dropping from the plants into the River. By conducting a foliar application this way, the water chestnut plants can be easily targeted with little to no non-target impacts. Clearcast is quickly absorbed by the water chestnut foliage and rapidly translocated to the growing points within the plant, stopping growth. Treatment would not be conducted when there is any rain forecasted within the day to ensure maximum uptake by the plants. Additionally, if the wind speeds exceed 10 mph, treatment would be rescheduled accordingly to prevent any drift to non-target species.

Temporary water use restrictions for Imazamox are: 1) No drinking or cooking until residue testing results are below 50 ppb, 2) No irrigation until concentrations are below 50 ppb. There are no restrictions on swimming, boating, fishing, watering of livestock, or domestic use, but prudent herbicide management suggests that we close the treatment area on the day of treatment. The shoreline will be posted with signs warning of these temporary water use restrictions prior to treatment.

### **Impacts Specific to the Wetlands Protection Act using Imazamox**

- Protection of public and private water supply – Generally neutral, but may have detriment at high doses (setback of treatment required, with distance based on dose and area treated)
- Protection of groundwater supply – Neutral (no interaction)
- Flood control - Neutral (no significant interaction)
- Storm damage prevention – Neutral (no significant interaction)
- Prevention of pollution – Generally neutral (no significant interaction), but could be a detriment if plant die-off causes low oxygen at the bottom of the lake
- Protection of land containing shellfish - Generally neutral (no significant interaction)
- Protection of fisheries - Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover)
- Protection of wildlife habitat – Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover)

### **Flumioxazin (Clipper - EPA # 59639-161 or equivalent)**

The USEPA/MA registered herbicide flumioxazin (Clipper) is the only contact herbicide currently approved for use in Massachusetts that can provide effective control of fanwort. Flumioxazin use carries a number of state specific restrictions which limit its use potential. Until flumioxazin is more widely used in the State and more data is collected (which is in process at another waterbody SOLitude currently manages) it is unlikely that these restrictions will change, so its use would be reserved for small spot-treatments in high-use areas of the river. If greater acreages require control, fluridone herbicide would be a better fit.

Currently in the Lower Basin of the Charles River, there is minimal fanwort growth. As such, at this time there are no immediate plans to utilize flumioxazin. In the event of small, localized areas of fanwort growth when Sonar (fluridone) herbicide use is not feasible, then flumioxazin would be used.

Flumioxazin herbicide is classified as a PPO (Protoporphyrinogen oxidase) inhibitor that initiates cell membrane disruption providing control of a broad range of susceptible plants. Flumioxazin is a true contact herbicide that provides quick and effective control of target plant species. Although Flumioxazin is not shown to have systemic activity, one or more years of reasonable control have been observed at other projects in New England where it has been applied. Flumioxazin is extremely fast-acting and has a very short half-life so it is well suited for spot/site specific treatments.

### **Impacts Specific to the Wetlands Protection Act using Flumioxazin**

- Protection of public and private water supply – Benefit (water quality improvement)
- Protection of groundwater supply – Neutral (no interaction as flumioxazin has a low leaching potential)
- Flood control - Neutral (no significant interaction)
- Storm damage prevention – Neutral (no significant interaction)
- Prevention of pollution – Generally neutral (no significant interaction), but could be a detriment if plant die-off causes low oxygen at the bottom of the lake
- Protection of land containing shellfish - Generally neutral (no significant interaction), but reduced algae might reduce food resources for shellfish, and direct toxicity is possible under unusual circumstances
- Protection of fisheries - Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover)
- Protection of wildlife habitat – Possible benefit (habitat enhancement) and possible detriment (food source alteration, loss of cover)

### **Algaecides (Captain XTR – EPA # 67690-9, SeClear – EPA # 67690-55, GreenClean PRO – EPA #70299-15, or equivalent)**

Approval for the use of a copper or peroxide-based algaecide is requested in the event that hazardous or nuisance algae conditions develop that jeopardize human health or recreation, warranting treatment. Although the Charles River has previously had multiple documented cyanobacteria (blue-green algae) blooms, there is no immediate plan to conduct an algaecide treatment in the Lower Basin. Algaecides have been included for approval so that if a cyanobacteria bloom is documented around the time of a large recreational event on the Charles River (i.e., Head of the Charles Regatta, or similar), in which human health may be negatively impacted by the bloom, a treatment can be conducted to alleviate the conditions. Although treatment of a cyanobacteria bloom is only a short-term solution, the ability to react accordingly when public health may be at stake is crucial.

Copper based algaecides (i.e., Captain XTR, CuSO<sub>4</sub>, SeClear) are widely used and are applied to lakes and ponds throughout North America to control nuisance filamentous and microscopic algae – inclusive of cyanobacteria (blue-green algae) blooms. There are no water use restrictions associated with copper-based algaecides; SŌLitude treats several direct, potable (drinking) water reservoirs and a number of recreational waterbodies in the Commonwealth with these algaecides, on a yearly basis. The concentrated liquid algaecides are first diluted with river water and are then applied subsurface (in the same process as the liquid herbicides mentioned previously) throughout the treatment area. The application rate is generally 0.2 ppm of copper or less for algae control. If applied, treatment will not exceed 50% of the waterbody volume so that dissolved oxygen levels can be preserved as to not impact any aquatic wildlife.

Peroxide based algaecides (i.e., GreenClean PRO, GreenClean Liquid) are a recent addition to algae management. Similar to copper algaecides, there are no water use restrictions. The concentrated products are diluted with river water and then sprayed evenly throughout the treatment area. The application rate is 0.5 – 1.5 gallons per acre-foot for algae control. If applied, treatment will not exceed 50% of the waterbody volume.

#### **Impacts Specific to the Wetlands Protection Act using Copper<sup>6</sup> and Peroxide Algaecides**

- Protection of public and private water supply – Benefit (used to control algae)
- Protection of groundwater supply – Neutral (no significant interaction)
- Flood control - Neutral (no significant interaction)
- Storm damage prevention – Neutral (no significant interaction)
- Prevention of pollution - Generally neutral (no significant interaction), but could be a detriment if algae/plant die-off causes low oxygen at the bottom of the lake or causes release of taste and odor compounds or toxins
- Protection of land containing shellfish - Generally neutral (no significant interaction), but reduced algae might reduce food resources for shellfish, and direct toxicity is possible under unusual circumstances.
- Protection of fisheries - Possible benefit (habitat enhancement) and possible detriment (food source alteration, direct toxicity)
- Protection of wildlife habitat – Possible benefit (habitat enhancement) and possible detriment (food source alteration, direct toxicity)

#### **Mechanical Harvesting**

Mechanical harvesters are paddle-wheel driven barges that cut and collect aquatic vegetation. The front table can be adjusted to a maximum cutting depth of usually 5-7 feet. Hydraulically driven conveyors on these machines facilitate stockpiling and off-loading of the harvested material. Harvesters run on a vegetable-based hydraulic oil that is biodegradable. The machines carry oil containment "booms" and absorbent pads in the unlikely and unforeseen event of a hydraulic or fuel leak. All other necessary precautions are taken while fueling and maintaining the machine.



For the Lower Basin of the Charles River, mechanical harvesting would be utilized in areas of dense water chestnut growth. This technique would predominately apply to larger, widespread areas of growth, if they are to ever exist. Under those conditions, harvesting would be employed annually, and potentially on multiple occasions annually, as often when

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<sup>6</sup> Commonwealth of Massachusetts Executive Office of Environmental Affairs. *Practical Guide to Lake Management*: 2004. 122 p.

harvesting water chestnut growth, the newly available space within the water column allows for more plants to germinate.

The harvester would be launched in the river via an existing boat ramp location, depending on the proximity to the area to be harvested, and offloading of harvested materials will occur at similar pre-determined, easily accessible locations adjacent (or as close as possible) to harvested areas. Offloaded material would be allowed to dry for a short time before being transported to an upland location for composting and/or disposal as necessary.

### **Impacts Specific to the Wetlands Protection Act<sup>7</sup> using Mechanical Harvesting**

- Protection of public and private water supply – Generally neutral (no significant interaction), although reduced plant density may benefit taste and odor control and minimize clogging of intakes
- Protection of groundwater supply – Generally neutral (no significant interaction)
- Flood control – Generally neutral (no significant interaction)
- Storm damage prevention – Generally neutral (no significant interaction)
- Prevention of pollution – Generally neutral (no significant interaction), but could be a detriment if sediment disruption and resultant turbidity are high, or if cut vegetation is left in the water to decay
- Protection of land containing shellfish – Generally neutral (no significant interaction)
- Protection of fisheries – Detriment from mechanical harvesting (direct fish removal), but with potential benefit by habitat improvement (may have benefit and detriment to different species in same lake from same effort)
- Protection of wildlife habitat - Potential benefit by habitat improvement, but may have benefit and detriment to different species in same lake from same effort

#### Management Technique Descriptions

Detailed information on all the approaches proposed in this NOI can be found at the **Massachusetts Department of Conservation and Recreation, Lakes and Ponds Program website**. There are links under the Publications tab to the "Generic Environmental Impact Report for Eutrophication and Lake Management in Massachusetts" and the "Practical Guide to Lake Management in Massachusetts."

<<http://www.mass.gov/eea/agencies/dcr/water-res-protection/lakes-and-ponds/eutrophication-and-aquatic-plant-management.html>>

Additional information on the herbicides and algaecides can be found at the **Massachusetts Department of Agricultural Resources website**:

<<http://www.mass.gov/eea/agencies/agr/pesticides/aquatic-vegetation-management.html>>

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<sup>7</sup> Commonwealth of Massachusetts Executive Office of Environmental Affairs. *Practical Guide to Lake Management*: 2004. 106 p.

## **6.0 Alternatives Analysis:**

Alternatives to the proposed Aquatic Plant Management Plan were considered. SŌlitude evaluated all available strategies for management of the Lower Basin of the Charles River. Findings and recommendations are based on direct experience and discussions found in the *Eutrophication and Aquatic Plant Management in Massachusetts Final Generic Environmental Impact Review* (FGEIR, EOEA 2004).

### *Bottom/Benthic Weed Barriers: Not Recommended*

Physical controls, such as the use of bottom weed barriers (i.e. Aquatic Weed Net or Palco) can be effective for small dense patches of nuisance vegetation, but are not cost effective or feasible for large areas. Weed barriers are expensive to install and maintain at ~\$2.00+/ft<sup>2</sup> (material & installation). Semi-annual maintenance to retrieve, clean and re-deploy the barriers would be expensive and time consuming. Additionally, covering expansive areas of the river bottom may also have detrimental impacts on invertebrates or other types of wildlife. Based on the configuration of the Lower Basin, the relatively large distribution of various invasive aquatic plants within the Basin, and the known presence of contaminated sediment which would be disturbed with the installation/removal, we are not recommending this management strategy.

### *Diver Hand-Pulling or Diver-Assisted Suction Harvesting (DASH): Not Recommended*

Diver hand-pulling and/or diver-assisted suction harvesting (DASH) can be a potential management tool for small, scattered growth of species such as milfoil, fanwort, and curlyleaf pondweed. The plants are individually pulled by the stem to gently lift the root from the sediment and placed into a mesh bag (with the diver hand-pulling) or suctioned up to a boat on the surface (with DASH). Unfortunately, due to the presence of contaminated sediment in the Charles River, the high frequency and use of recreational boats, and prohibited swimming, we are not recommending these management strategies for use in the Lower Basin in order to protect the safety of the divers.

### *Mechanical Harvesting: Recommended*

Harvesting of water chestnut plants only is recommended if distribution and abundance within the Lower Basin of the Charles expands significantly. Further information about the proposed mechanical harvesting strategy is provided in section 5.2.

It should be noted that harvesting Eurasian watermilfoil is not recommended because of its ability to reproduce through vegetative fragmentation, leading to increased spread into previously un-infested areas or further intensifying growth rates. Additionally, harvesting would be costly and at best would only provide a season of relief from the milfoil, fanwort and/or spiny/brittle naiad with no guarantee of success. The overall ecological disruption and non-target impacts would be more significant than with spot-treatments using aquatic herbicides.

*Biological: Not Recommended*

There are no proven biological controls available or approved by the State for the control of the invasive aquatic plant species present in the Lower Basin of the Charles River.

*Sediment Excavation/Dredging: Not Recommended*

Dredging nutrient rich bottom sediment is sometimes used as a strategy to control excessive weed growth. Conventional (dry) or hydraulic dredging would require the expenditure of hundreds of thousands of dollars in design and permitting fees alone. Dredging may also have severe impacts to aquatic organisms (i.e., fish and macroinvertebrates) in the river with no guarantees of elimination of invasive vegetation.

*Do Nothing: Not Recommended*

If the non-native and nuisance plant and algae growth is allowed to continue unabated, eutrophication and inevitable filling-in at the Lower Basin will continue to occur at an accelerated rate due to the annual decomposition of extra plant material. Stagnant conditions will also increase water temperatures promoting both algae and bacterial growth as well as providing extensive mosquito breeding habitat. The river's recreational and aesthetic value would be significantly degraded.

## **7.0 Compliance**

*Massachusetts Wetlands Protection Act:*

The objective of this project is to control invasive species. Managing densities of non-native species will typically not adversely affect wildlife habitat and will not negatively impact other interests of the Massachusetts Wetlands Protection Act. No significant alteration to wetland resources areas will occur as a result of the proposed management program; instead the resource areas will be enhanced by controlling the nuisance plant and algae growth. The proposed management activities are consistent with the guidelines in the following documents:

- Final Generic Environmental Impact Report: Eutrophication and Aquatic Plant Management in Massachusetts (June 2004)
- Guidance for Aquatic Plant Management in Lakes and Ponds: As it Relates to the Wetlands Protection Act (April 2004 – DEP Policy/SOP/Guideline # BRP/DWM/WW/G04-1)
- The Practical Guide to Lake Management in Massachusetts (2004)

*DEP License to Apply Chemicals:*

All herbicide applications will be performed by Certified Applicators. A site specific "License to Apply Chemicals" for the proposed treatment will be filed with Massachusetts DEP, Office of Watershed Management. The USEPA/MA registered aquatic herbicides will be applied at recommended label rates, in accordance with the "Order of Conditions" and DEP "License to Apply Chemicals" permits (BRP WM04). Prior to treatment, the shoreline will be posted with signs warning of all temporary water use restrictions.

*Massachusetts Environmental Policy Act:*

The strategies proposed in this NOI are options approved under the Massachusetts Environmental Protection Act (MEPA) process that was approved in 2004 with the issuance of the FGEIR and the *Practical Guide to Lake and Pond Management in Massachusetts*. These approaches do not require individual MEPA review.

*Massachusetts Endangered Species Act:*

According to the most recent Natural Heritage maps provided by MA GIS (Attachment C - Figure 3), the Lower Basin of the Charles River is not located within area designated as Priority Habitats of Rare Species as determined by the Massachusetts Natural Heritage & Endangered Species Program (NHESP). A formal review by NHESP is not required.

*Chapter 91:*

Based on the types of activities that are subject to Chapter 91 authorization (structures, filling, dredging, change in use, and structural alteration), the work proposed in this Notice of Intent application is not classified as any of those activities. These approaches do not require a Chapter 91 authorization.

*US Army Corps of Engineers:*

The Lower Basin of the Charles River falls into the US Army Corps of Engineers jurisdiction. Based on the types of activities that are subject to their approval, we believe filing a Self-Verification will fulfil this regulatory requirement.

**8.0 Impacts of the Proposed Management Plan Specific to the Wetlands Protection Act:**

Protection of public and private water supply – The Lower Basin of the Charles River is not used directly as a drinking water supply. Aquatic herbicide treatment at the river will not have any adverse impacts on the public or private water supply, when used in accordance with the project label and conditions of the MA DEP License to Apply Chemicals.

Protection of groundwater supply – According to available studies, there is no reason to believe that the groundwater supply will be adversely impacted by the proposed management strategies, specifically the application of the herbicides at the proposed rates to the Lower Basin of the Charles River, when used in accordance with the product labels. Contamination of groundwater by aquatic herbicides is limited by their low rate(s) of application, rapid rate of degradation, and uptake by target plants. SŌLitude's State licensed applicators take all necessary precautions when mixing and disposing/recycling of all chemical containers.

Flood control and storm damage prevention – No construction, dredging or alterations of the existing floodplain and storm damage prevention characteristics of the river are proposed. However, in some instances, abundant and excessive aquatic plant growth can contribute to high water and flooding. Most commonly this occurs in the vicinity of waterbody outlets or water conveyance channels and structures. The unmanaged annual growth and decomposition of abundant plant growth is also known to increase sediment deposition at an accelerated rate. Therefore, the proposed management approaches may increase the capacity of the resource area over the long-term to provide flood protection.

Prevention of pollution – No degradation of water quality or increased pollution is expected by the proposed management approaches. The proposed herbicides are relatively slow acting in controlling the nuisance vegetation. This results in a slow release of nutrients from the decaying plants, reducing the potential for increases in nutrients that can cause algae blooms. Removal of the excessive growth of aquatic vegetation will contribute to improved water circulation and a reduction in the potential for anoxic conditions. The post-management decrease in plant biomass will help to decrease the rate of eutrophication currently caused by the decomposing of excessive plant material.

Protection of fisheries and shellfisheries – Contiguous, dense beds of aquatic vegetation provide poor habitat for most species of fish. Dense plant cover frequently results in significant diurnal fluctuations in dissolved oxygen as well as oxygen depletion during certain times of the year. While temporary effects on some desirable submersed and floating-leaved species may occur following the application of an aquatic herbicide, non-target plants typically rebound quickly. Shoreline emergent plants will not be impacted following the use of aquatic herbicides.

Protection of wildlife and wildlife habitat – In general, excessive and abundant plant growth, especially non-native plants, provides poor wildlife habitat for fish and other wildlife. The proposed management plan is expected to help prevent further degradation of the waterbody through excessive weed growth and improve the wildlife habitat value of the pond in the long-term. Maintaining a balance of open water and vegetated areas is intended.

Findings and Special Conditions of the Newton Conservation Commission  
DEP #239-864, 791 Walnut St, Ecological Pond Restoration

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**Findings (considered as and given equal status as special conditions)**

Site: Charles River from Maple St/Nonantum Rd to the Daly Rink

Owner/Applicant: DCR, Department of Conservation and Recreation – Lakes and Ponds Program c/o Anne Carroll  
251 Causeway Street, Suite 600, Boston MA 02114  
(857) 248-3598 anne.carroll@state.ma.us

Representative Keith Gazielle, Project Manager, SOLitude Lake Management  
590 Lake Street, Shrewsbury MA 01545  
508.954.8576 kgazielle@solitudelake.com

Date of Issuance June 26, 2020. NOTE: This is a 5-year Order of Conditions.

Existing Conditions: Weed-choked section of the Charles River.

Approved Project Summary:

- Project Purpose: The objective of the management program is to provide site specific control of growth of submersed non-native and invasive aquatic plant species, (predominantly: milfoils, naiads, fanwort, curly-leaf pondweed, and, possibly, water chestnut and cyanobacteria) in the Charles River Lower Basin to restore and improve the natural capacity of the Charles River to provide suitable open water and native plant habitat and recreational opportunities through an integrated management plan focused on monitoring, the prudent use of USEPA/MA Department of Agricultural Resources (MDAR) registered aquatic herbicides, and, if conditions warrant, mechanical harvest/hand-pulling and algicides.
- Approved Phase I and Phase II activities (see the calendar below) are:
  - Applications of ProcellaCOR EC (florpyrauxifen-benzyl):
    - ProcellaCOR offers control of milfoil and other susceptible invasive aquatic plants.
    - Due to the limited contact-exposure time required for control of the target species, concentrations only need to be maintained for hours to several days to achieve management.
    - There are no restrictions on using ProcellaCOR treated water for drinking water, swimming or fishing.
  - Applications of Sonar (fluridone) and ProcellaCOR EC (florpyrauxifen-benzyl):
    - Sonar offers long-term control on invasive (Eurasian watermilfoil and fanwort). Fluridone also provides annual control of curlyleaf pondweed and spiny/brittle naiad, but as these species germinate from seed each season, it is not considered systemic control.
    - Fluridone requires an extended contact time (45-90 days), so it has historically been used for low-dose, whole-pond treatments where dilution and contact time are more predictable, however, new granular formulations do allow for more effective spot-treatment as well. A series of low-dose applications (booster treatments) would be required to provide the effective contact time within the Lower Basin, likely 3-4 depending on water flow and timing.
  - NOTE: Any other herbicide applications must be reviewed and approved by the Conservation Commission.
  - **Hand-pulling of water chestnuts. HAND PULL PHASE I? NOT SHOWN ON THE NEWTON MAP OR CALENDAR**
- Additional required activities are:
  - **Regular monitoring of water quality. NO WQ MONITORING INFORMATION GIVEN IN THE NEW NARRATIVE**
  - Pre-treatment survey
  - Pre-treatment report
  - Post-treatment survey
  - Year-end report
- Possible Phase II additional management efforts that, if desired, will require Conservation Commission review and approval as minor plan changes.
  - Emergency control for public safety (e.g., Head of the Charles) – Diquat/Tribune spot-application
  - Control of fanwort regrowth – Clipper/flumioxazin spot-treatments in high-use areas of the river

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- Control of cyanobacteria bloom documented around the time of a large recreational event on the Charles River (e.g., Head of the Charles Regatta), in which human health may be negatively impacted by the bloom – a copper or peroxide-based algaecide treatment
- Control of water chestnut that exceeds hand-pulling – Clearcast/imazamox foliar application that is conducted using a hand-held gun sprayer from a low-volume pump system
- Control of water chestnut that exceeds hand-pulling – mechanical harvesting

Year	Phase	Timing	Task
2021	I	August	Pre-management vegetation survey of the entire Lower Basin, pending receipt of approved OOCs
		August	Meeting with Conservation Commission to give update on tentative management plan based on survey results
		August/Sept.	ProcellaCOR spot treatment application for milfoil control
		September	Post-management point-intercept survey of the entire Lower Basin
		December	Year-end reporting
2022	I	Spring	Application and issuance of OOCs for management of the Lakes District portion of the River
		May/June	Pre-management vegetation survey
		May/June	Meeting with Conservation Commission to give update on tentative management plan based on survey results
		July	Initiate low-dose whole-river Sonar treatment program to comply with DMF time of year restrictions
		August	Sonar booster applications, as necessary based on results and monitoring
		September	Post-management point-intercept survey
2023	II	May/June	Pre-management vegetation survey
		May/June	Meeting with Conservation Commission to give update on tentative management plan based on survey results
		July	Initiate low-dose whole-river Sonar treatment program to comply with DMF time of year restrictions
		August	Sonar booster applications, as necessary based on results and monitoring
		September	Post-management point-intercept survey
		December	Year-end reporting
2024/ 2025	II	May/June	Pre-management vegetation survey
		May/June	Meeting with Conservation Commission to give update on project and present any proposed modifications to the management plan based on survey results
		July/August	Spot treatment applications likely with ProcellaCOR and/or Sonar for milfoil and/or fanwort control, respectively, to comply with DMF time of year restrictions
		September	Post-management point-intercept survey
		December	Year-end reporting

- NOTE: The Lower Basin of the Charles River is under the jurisdiction of the Massachusetts Division of Marine Fisheries (DMF) because of anadromous fish migration and spawning. DMF has not required a formal water quality monitoring plan if treatments are conducted outside the prescribed Time of Year (TOY) restrictions (April 1-June 30 & September-1 November 15).

Findings and Special Conditions of the Newton Conservation Commission  
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- Narrative: “Charles River, Lower Basin – Notice of Intent 2021”, Sections 1.0 – 7.0.
- Map: “Charles River (Newton) - Potential Treatment Areas, SOLitude, 7/26/21

Plan Revisions

- Any required or desired deviations from this plan shall be requested in writing of the Commission Office, who shall determine if said changes require filing a new Notice of Intent.
- When plans are updated it is the responsibility of the applicant to provide all City Departments involved in the permitting and approval process complete and consistent plans.
- The Newton Conservation Commission retains the right to require the submittal of additional information or impose additional conditions deemed necessary to ensure the protection of wetland resource areas.

Jurisdiction

- Limited Project: 310 CMR **10.53(4)(e)(5)**
- OR
- Land Under Water and Waterways: 301 CMR 10.56

Reasons for Approval as a Limited Project 310 CMR 10.53(4)(e)(5) (Impact Analysis)

- The Commission finds that removing the choking invasive aquatic weeds will improve the capacity of the affected Resource Areas to protect and sustain the other interests identified in the Act and will outweigh any potential temporary disturbance to the wetland resource areas. Restored open water habitat and riverine flow will create overall site improvements.
  - Chemical applications of ProcellaCOR and Sonar are appropriate for the large scale of the affected, weed-choked area. The Commission finds that alternative mechanical and biological controls are not feasible for the scale of this effort.
  - Hand-removal of water chestnuts is approved since there will be no alteration of Land Under Wetlands and Waterbodies, Bank, Bordering Vegetated Wetland, or Buffer Zone.
- Guidance for Aquatic Plant Management
  - “Applicants proposing a limited project under 310 CMR 10.53(4) must demonstrate that the project will improve the natural capacity of a resource area(s) to protect some or all of the interests of the Wetlands Protection Act (WPA). To meet this test, a project must improve the natural ability of a resource area to protect public or private water supply, ground water, fisheries, wildlife habitat, or to provide flood control, storm damage prevention, and/or to prevent pollution. Although a project does not need to improve the natural capacity of the resource area to protect all of the interests of the act, it must improve at least one interest and it should minimize the adverse affect on the interests that are not targeted for improvement. ... By the language of the limited project regulation, proposed projects involving removal of aquatic nuisance vegetation must demonstrate that the vegetation is a “nuisance” to the interests of the act. Non-indigenous invasive plant species constitute nuisance vegetation.”
  - “The Department presumes that non-indigenous aquatic plants within lakes ponds are not “significant to the protection of wildlife habitat”, either in whole or as a component of a larger plant community.3 As such, the control or elimination of non-indigenous aquatic hydrophytes within lakes or ponds will not exceed any threshold established at 310 CMR 10.56(4)(a) 4 or 310 CMR 10.60, providing that work is designed and carried out using the best practical measures (BMPs).”
- Protective measures include:
  - Limits on the use of herbicides to limit low dissolved oxygen events and fish kills
  - Time of year restrictions
- Conclusion: Although there will be temporary alterations, this project will result in an overall improvement in river health.

Reasons for Approval under LUWW 301 CMR 10.56 (Impact Analysis).

- The Commission finds that removing the choking invasive aquatic weeds will improve the capacity of the LUWW to sustain the interests of the Act (see performance standards a-c, below) and will outweigh any potential temporary disturbances. Restored open water habitat and riverine flow will create overall site improvements.

Findings and Special Conditions of the Newton Conservation Commission  
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- (a) Work shall not impair the following:
1. The water carrying capacity within the defined channel...;
  2. Ground and surface water quality;
  3. The capacity of said land to provide breeding habitat, escape cover and food for fisheries; and
  4. The capacity of said land to provide important wildlife habitat functions. ...
  5. Work on a stream crossing....

(b) The issuing authority may issue an Order to maintain or improve boat channels

(c) No project may be permitted which will have any adverse effect on rare species.

- Chemical applications of ProcellaCOR and Sonar are appropriate for the large scale of the affected, weed-choked area. The Commission finds that alternative mechanical and biological controls are not feasible for the scale of this effort.
- Hand-removal of water chestnuts is appropriate and beneficial and will not alter Land Under Wetlands and Waterbodies.
- Protective measures include:
  - Limits on the use of herbicides to limit low dissolved oxygen events and fish kills
  - Time of year restrictions
- **Conclusion:** Although there will be temporary alterations, this project will result in an overall improvement in river health.

Limit of Work: The limit of work shall be as shown on the approved plan and as limited by this Order of Conditions.

In case of emergencies, problems, or questions, contact: Jennifer Steel: 617-796-1134.

**Conditions Prior to the Start of Work**

21. All other applicable federal, state and/or local permits and/or approvals must be obtained.
22. The Applicant is hereby instructed to review all conditions with all contractors and workers involved in on-site operations prior to the commencement of construction on this project. Any contractors and workers arriving after construction commences must also be apprised of these conditions. The project supervisor overseeing daily operations at the site must read this Order and sign a copy of each page, indicating that each condition has been read and understood. These signed pages must be submitted to Commission staff.
23. This document shall be included in all construction contracts, subcontracts, and specifications associated with the proposed work and shall supersede any conflicting contract requirements. The Applicant shall ensure that all contractors, subcontractors and personnel performing the permitted work are aware of the permit's terms and conditions. Thereafter, the contractor will be held jointly liable for any violation of this Order. Nothing in this paragraph shall limit or restrict the liability of the Applicant for violations of this Order.
24. The Applicant shall designate an Environmental Monitor, acceptable to the Commission, for this project that will perform inspections of all surveys, water quality monitoring, and treatments in Newton. The Monitor shall provide summary reports of his/her findings of consistency with the approved plans and Order. NO INFORMATION ON MONITORING OR VERIFICATION WAS PROVIDED IN THE REVISED NARRATIVE.
25. The applicant, or contractor, shall obtain a valid BRP WM 04 Permit for the application of herbicides for the designated target species.
26. Prior to the start of application, the Applicant shall provide the Commission with a plan specifying measures to inform and protect the public during nuisance vegetation management activities.
27. The applicant must schedule and attend a pre-construction site visit with the applicant, construction supervisor and Conservation agent, to review:
  - a. Proof of Recording the Order and the Operations and Maintenance Plan appended hereto
  - b. A signed Certificate of Understanding
  - c. Contact information for those responsible for construction, sediment controls, and landscaping
  - d. Anticipated timeline
  - e. DEP File number signs (minimum size 2'x2', clearly visible from the street)

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28. The applicant shall notify the Conservation Office 1 week prior to every chemical treatment.

**Conditions During Work**

29. A copy of the approved plans and Order of Conditions shall be on-site and available at all times. All contractors must adhere to the approved plan and conditions. Should any damage occur during the project, the applicant or any successor shall be responsible for the full cost of restoration of the wetland to the satisfaction of the Commission.

30. No work shall take place without the Environmental Monitor present. NO INFORMATION ON VERIFICATION WAS PROVIDED IN THE REVISED NARRATIVE.

31. All application of herbicides approved for use by this Order shall be applied by an applicator licensed (in the aquatic weed category) by the Massachusetts Department of Agricultural Resources (MDAR), Pesticide Bureau.

32. Applications must follow all product label directions.

33. If at any time during the implementation of the project a fish kill or significant water quality problem occurs in the vicinity of the project, the applicant and licensed applicator must immediately contact the DEP's Emergency Response section, the Department of Fish and Game, and the Newton Conservation Commission, and all site-related activities impacting the water must cease until the source of the problem is identified and adequate mitigating measures employed to the satisfaction of the Commission.

34. The Applicant must inform the Commission of any violation of this Order and any other project related spill or accident that may impact wetland resource areas as soon as possible and at least by the end of the business day, and must take appropriate action to mitigate impacts from such spill or accident.

35. Work shall be immediately halted on the site if an Agent of the Commission or DEP determines that any of the work is not in compliance with this Order of Conditions or Special Conditions.

36. "Good housekeeping best management practices" shall be implemented at all times during in-water or waterside activities to minimize turbidity and other water quality impacts, including:

- a. appropriate stockpile area management
- b. appropriate mixing or storage of herbicide in the wetland resource areas
- c. appropriate material storage (e.g., contained/stored so as not to enter the resource area)
- d. appropriate limits to vehicle refueling, vehicle washing, etc.
- e. appropriate litter management
- f. appropriate controls for tire tracking
- g. Deck gear and equipment stored on project-related vessels must be secured at the end of each workday and inspected for any leakage.
- h. All project-related vessels must have a spill kit containing sorbent materials on the vessel at all times.

37. Pre-treatment visual survey conducted towards the beginning of the growing season to accurately determine the areal extent of the targeted invasive plant species. WAAS enabled GPS will be used to geospatially reference the perimeter of various invasive plant beds within the project area. This information will culminate into target plant bed and management area maps. These data will be used to inform the annual management effort throughout the program.

38. Pre-treatment report These reports must be given to ConCom on or before ?????? and shall include, at a minimum: NO INFORMATION ON A PRE-TREATMENT REPORT WAS GIVEN IN THE NEW NARRATIVE

- a. plans (maps),
- b. photographs (annotated and keyed to the plan),
- c. a narrative which describes percent vegetative cover by species.
- d. any new growth of target species
- e. updates on all recent/ongoing nuisance vegetation
- f. any anticipated activities to be undertaken in the coming year; and

39. Herbicide Applications in General. Herbicide application shall not occur during periods when wind speed exceeds 10 miles per hour and shall not be applied within 4 hours before a forecasted rain event, during a rain event, or within 4 hours after a rain event.

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40. ProcellaCOR Applications

- a. Prior to treatment, the shoreline of the waterbody will be posted with signs warning of temporary water-use restrictions.
- b. ProcellaCOR will be applied according to the approved calendar and abiding by DMF's Time of Year (TOY) restrictions (April 1-June 30 & September-1 November 15).
- c. ProcellaCOR will be applied to the areas of milfoil growth from 2 to 4 PDU/ac-ft. (The permissible maximum label rate is 25 PDU/ac-ft). One PDU is equal to 3.17 ounces.

d. HOW WILL PROCELLACOR BE APPLIED? boat sprayer XXXX and spot sprayer XXXX

e. Any spray application of herbicide shall be conducted with a low-pressure spray and shall not be applied as an aerosol.

41. Sonar/Fluridone Applications

- a. Although there are no restrictions on swimming, boating or fishing, prior to treatment the shoreline of the river will be posted with signs warning of temporary water use restrictions.
- b. Sonar will be applied according to the approved calendar and abiding by DMF's Time of Year (TOY) restrictions (April 1-June 30 & September-1 November 15).
- c. Concentrations in the range of 5-10 ppb will be targeted for the control of the invasive species assemblage present in the Lower Basin. (Note: US EPA has approved a limit of 150 ppb to be allowed in water used for drinking.)
- d. For granular applications, the herbicide will be placed into a circular spreader mounted to the bow of the treatment vessel and evenly distributed over the surface of the treatment area. Using the pellet formulations, the active ingredient is gradually released off the clay carrier pellet over a period of several weeks. This allows for a controlled and extended exposure to fluridone concentrations. For aqueous applications to smaller acreage amounts, the herbicide will be placed into an onboard mixing tank, mixed with river water and evenly distributed throughout the surface of the treatment area via boat. This herbicide will be applied under the water surface through trailing hoses, minimizing the chance of herbicide drift and assuring accurate placement over the target species.

f. SINCE A LAND-BASED LONG-TERM REMOTE SET-UP FOR SONAR HAS NOT BEEN DISCUSSED IN ANY DETAIL, IT SHOULD NOT BE INCLUDED IN THIS ORDER.

42. Water chestnut hand-pulling may take place at any time, but preferably towards the end of June. Dewatering and disposal must take place off-site (not upland site in Newton has been identified or approved) and in a manner appropriate to management and control of that invasive species. WATER CHESTNUTS WERE NOT MAPPED IN NEWTON. OFF-LOADING SITES WEREN'T IDENTIFIED, SO SHALL NOT BE PERMITTED IN NEWTON.

43. Water quality testing NO WQ TESTING DETAILS WERE PROVIDED IN THE REVISED NARRATIVE, SO THE CON COM MAY BE LEFT TO CONDITION THIS.

a. Water quality testing will be conducted every ????

b. Water samples will be collected from multiple locations within the treatment area throughout the treatment area to test for:

i. Fluridone residues using the manufacturer's FasTEST procedure. Results of these analyses will help guide subsequent booster applications.

ii. ProcellaCOR ??

iii. Dissolved oxygen

iv. ???

44. The Applicant or their contractor must keep a daily log summarizing all construction activities of this project on every day that such activity occurs.

45. Post-treatment sample survey. At or near the conclusion of active management and the growing season, a post-management survey of the Lower Basin will be conducted. This survey will replicate the 555 point-intercept survey established during the 2019 survey effort with rake-toss collections made at each survey point.

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46. Year-end report on annual management efforts undertaken, and effects of the management activities, observed conditions, observed efficiency, and future recommendations will be developed for each year of the approval period. Interim updates may also be requested by the Commission. Annual year-end reports Monitoring reports must include at a minimum: **NO DETAILS OF A YEAR-END REPORT WERE PROVIDED IN THE REVISED NARRATIVE, SO THE CON COM MAY BE LEFT TO CONDITION THIS**
- a. details of all management activities undertaken in the previous year with data and photos to supplement;
  - b. any problems that arose in the Commission’s jurisdiction during the year;
  - c. any anticipated activities to be undertaken in the coming year; and
  - d. any plan change requests.

47. Peer Reviews. The Commission may, at its discretion, require applicant-funded, third-party peer reviews of the water quality data, pre-treatment surveys, pre-treatment reports, post-treatment surveys, and/or year-end reports. **WITHOUT ANY INFO ON VERIFICATION, WQ TESTING, AND TREATMENT THRESHOLDS, AS REQUESTED, THE NEED FOR PEER REVIEW SEEMS LIKELY.**

**Conditions after Work has been Completed**

48. The applicant must apply for a Certificate of Compliance in accordance with DEP Condition #12, by submitting:
- a. A completed “Request for Certificate of Compliance (WPA Form 8A).”
  - b. A written statement from contractor (SOLitude Lake Management at the time of the issuance of this Order) registered in Massachusetts certifying that the work has been completed in substantial compliance with this Order of Conditions and the approved plans referenced herein (or approved revisions). If the completed work differs from that in the approved plans and conditions, the report must specify how the project differs.

32 Placid Road

Aerial

Newton GIS Browser

Click a property below for more information

About Instructions Data Sources Map Legend

Search by Address (e.g. 2 Fox Pl) [Q]

Layers [Print]

The image is a screenshot of a web-based GIS application. The main content is an aerial photograph of a residential neighborhood with black lines overlaid to delineate property boundaries. A yellow star is placed on the roof of a house in the center of the map. The interface includes a search bar at the top left, navigation controls (plus, minus, refresh) on the left side, and a 'Layers' panel and 'Print' button on the right side. The top navigation bar contains links for 'About', 'Instructions', 'Data Sources', and 'Map Legend'. The text '32 Placid Road' is displayed at the top left of the page, and 'Aerial' is displayed at the top right.



FILL CALCULATIONS IN FLOOD PLAIN

PROPOSED STEPS

TREADS = (3.0' X 0.9' X 0.16') X 5 STEPS = 2.16 C.F.  
 RISERS = (3.0' X 0.66' X 0.083') X 5.2 STEPS = 0.85 C.F.  
 STRINGERS = (3.21 S.F. X 0.16') X 4 STRINGERS = 2.13 C.F.  
 RAILING = (PICKET+3" POST+BOTTOM RAIL) X 2 RAILINGS = 0.97 C.F.  
 6.11 C.F.

PROPOSED BOTTOM OF 2" X 8" DECK LEDGER

(121.13 -121.06) X 0.166' X 0.66' X 12 LEDERS = 0.09 C.F.

PROPOSED POST & CONC. BASE

A = ((120.9-118.4) X 0.25 S.F.) + ((118.4-117.9) X 0.55 S.F.) = 1.03 C.F.  
 B = ((120.9-119.0) X 0.25 S.F.) + ((119.0-118.5) X 0.55 S.F.) = 0.75 C.F.  
 C = ((120.9-119.3) X 0.25 S.F.) + ((119.3-118.8) X 0.55 S.F.) = 0.68 C.F.  
 D = ((120.9-119.0) X 0.25 S.F.) + ((119.0-118.5) X 0.55 S.F.) = 0.75 C.F.  
 E = ((120.9-119.5) X 0.25 S.F.) + ((119.5-119.0) X 0.55 S.F.) = 0.63 C.F.  
 F = ((120.9-119.5) X 0.25 S.F.) + ((119.5-119.0) X 0.55 S.F.) = 0.63 C.F.  
 G = ((120.9-119.5) X 0.25 S.F.) + ((119.5-119.0) X 0.55 S.F.) = 0.63 C.F.  
 H = ((120.9-119.0) X 0.25 S.F.) + ((119.0-118.5) X 0.55 S.F.) = 0.75 C.F.  
 5.83 C.F.

PROPOSED 2" X 8" PORCH BEAMS

(121.13 -120.90) X 0.166 X 0.66' X 12 BEAMS = 0.30 C.F.

PROPOSED 2" X 8" BRACES

18.67' X 0.166' X 0.66' X 4 BRACES = 8.18 C.F.

PROPOSED INSULATED BOX

(121.13-120.9) X 8.5' X 2.0' = 3.91 C.F.

PROPOSED LATTICE

PORCH: (121.13-119) X 34.3' X 0.021' = 1.53 C.F.  
 DECK: (121.13-113) X 27.3' X 0.021' = 1.76 C.F.  
 3.29 C.F.

TOTAL FILL IN FLOODPLAIN = 27.71 C.F. (1.03 C.Y.)

2"X8'  
(12)

CUT CALCULATIONS IN FLOOD PLAIN

EXISTING PORCH TBR

FOUNDATION WALLS = (121.13-119.0) 12.7 S.F. = 27.05 C.F.

EXISTING STEPS TBR

TREADS = (3.2' X 0.9' X 0.16') X 3 TREADS = 1.38 C.F.  
 RISERS = (3.2' X 0.66' X 0.083') X 3 RISERS = 0.53 C.F.  
 STRINGERS = (1.80 S.F. X 0.16') X 3 STRINGERS = 0.90 C.F.  
 2.80 C.F.

EXISTING PORCH LATTICE TBR

(121.13-119) X 7.5' X 0.021' = 0.34 C.F.

PART EXISTING FENCE - TBR

(121.13-118.5) X 5.7' X 0.166' = 2.49 C.F.

GRADING CUT

VOLUME = 34.90 C.F.

TOTAL CUT IN FLOODPLAIN = 67.58 C.F. (2.50 C.Y.)

TOTAL CUT/ FILL

ELEVATION	CUT	FILL
117 - 118	4.70 C.F.	0.32 C.F.
118 - 119	30.67 C.F.	4.09 C.F.
119 - 120	15.01 C.F.	13.70 C.F.
120 - 121	15.18 C.F.	6.92 C.F.
121 - 121.13	2.02 C.F.	2.68 C.F.
TOTAL	67.58 C.F.	27.71 C.F.

96 lake ave

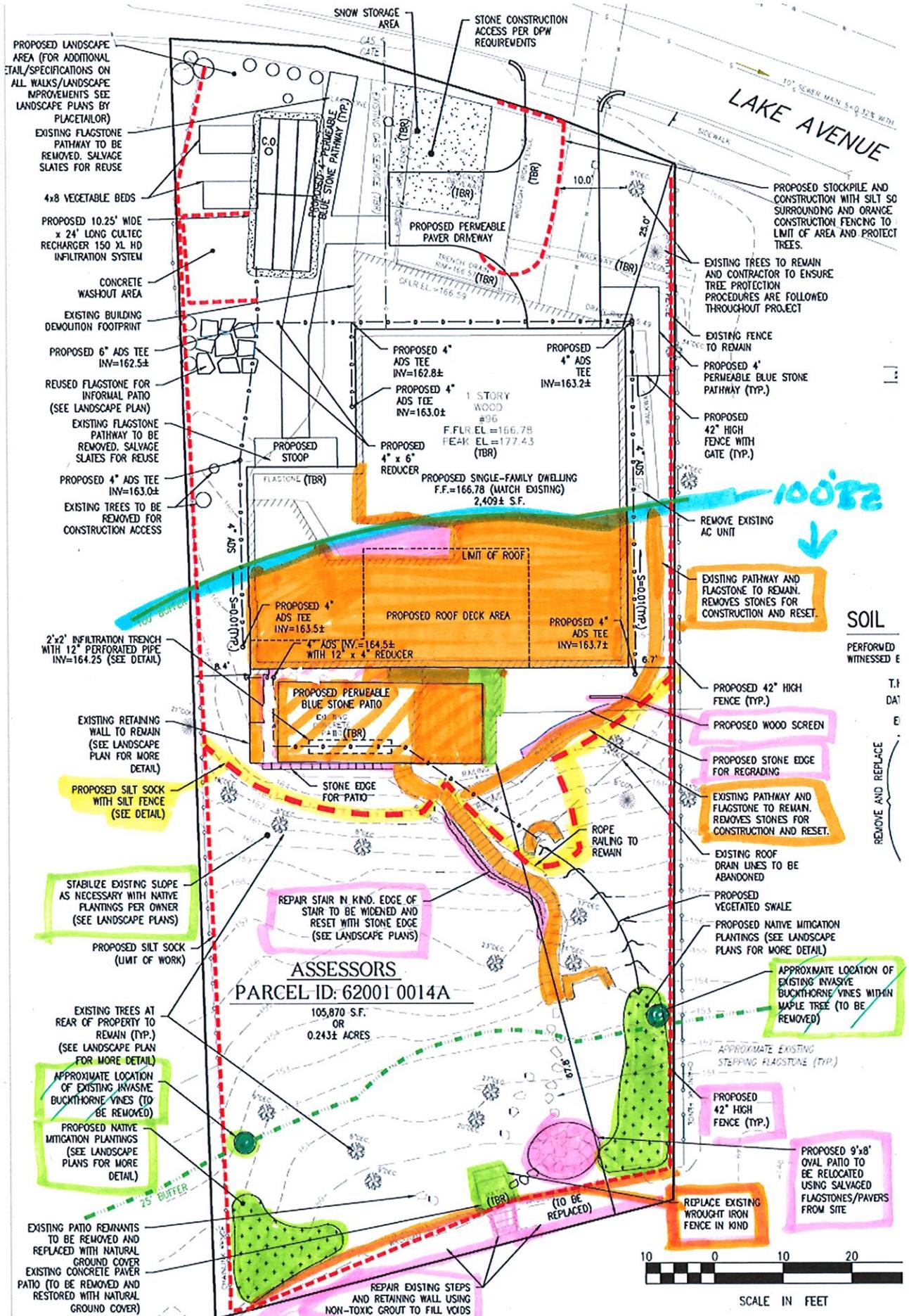


Layers



Print









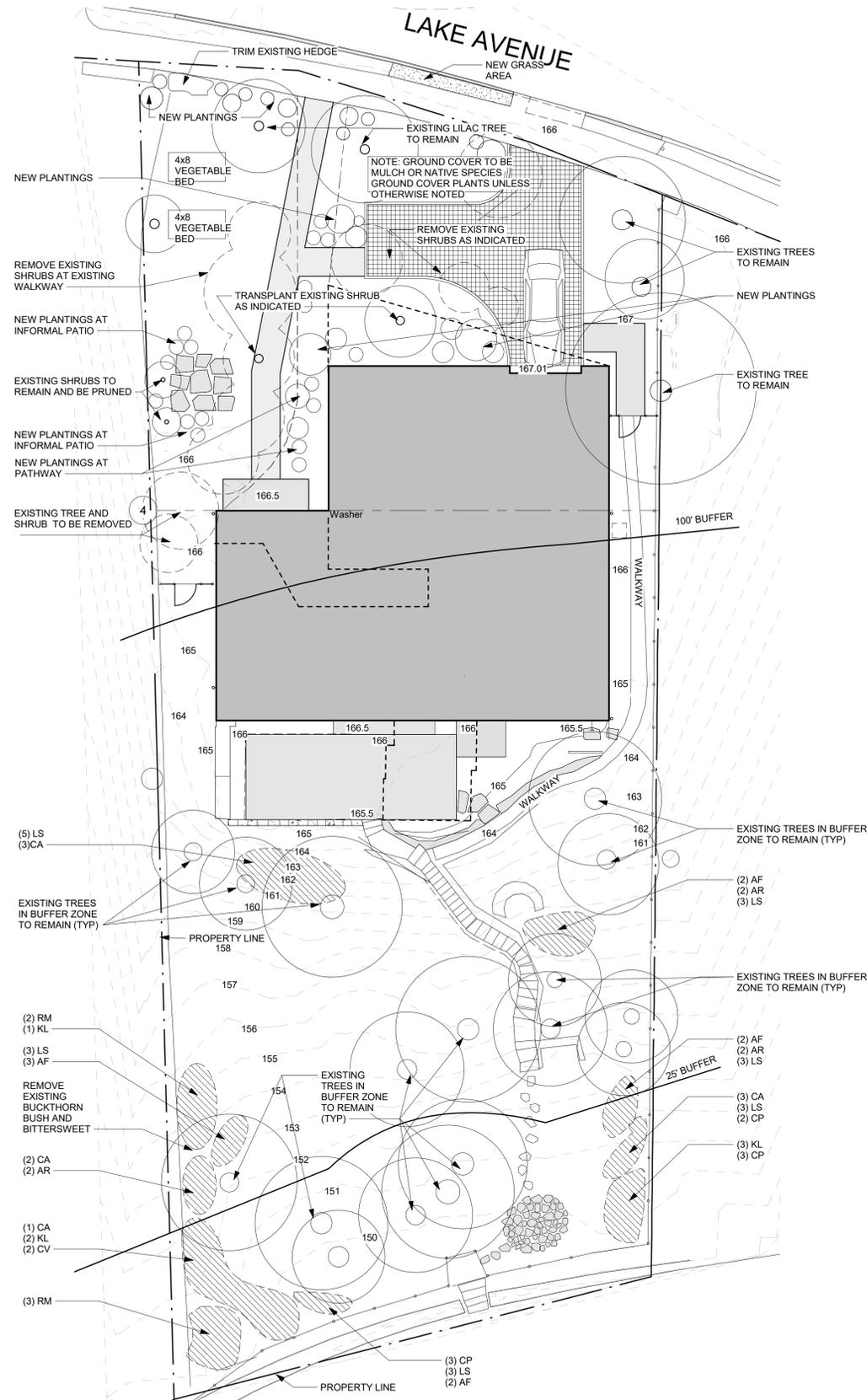
PLANTING SCHEDULE FOR BUFFER ZONE					
ABBR	BOTANICAL NAME	COMMON NAME	QUANTITY	HT RANGE	SPACING
AF	ATHYRIUM FILIX-FEMINA	LADY FERN	9	1'-2'	12"
AR	ACTAEA RACEMOSA	BLACK COHOSH	4	4'	24"
CA	CLETHRA ALNIFOLIA	SUMMERSWEET	9	3'-6'	24"
CP	CAMPTONIA PEREGRINA	SWEETFERN	9	3'	12"
CV	CLEMATIS VIRGINIANA	VIRGIN'S BOWER	4	20' vine	24"
KL	KALMIA LATIFOLIA	MOUNTAIN LAUREL	6	3'-6'	36"
LS	LOBELIA SIPHILITICA	BLUE LOBELIA	11	1'-3'	24"
RM	RHODODENDRON MAXIMUM	GREAT LAUREL	5	12'	36"
TOTAL			57		

**LANDSCAPE PLAN NOTES:**

WARBURG - 96 LAKE AVE NEWTON

- DESIGN INTENT IS TO PRESERVE THE NATURAL HABITAT AND EXTENSIVE TREE CANOPY IN THE CRYSTAL LAKE BUFFER ZONE.
- NO GRASS OR LAWN IS PLANNED FOR THE SITE. THE INTENT IS TO PRESERVE THE EXISTING MOSS GROUND COVER THAT EXTENDS FROM THE FIRST FLOOR PATIO TO THE LAKEFRONT WALL.
- ALL NEW PLANTINGS WILL BE NATIVE SPECIES, SELECTED FOR THE SHADED LAKEFRONT ENVIRONMENT.
- SEE PLANTING SCHEDULE FOR PLANT SPECIES AND APPROXIMATE QUANTITY IN THE CRYSTAL LAKE BUFFER ZONE. PLANTING SCHEDULE EXPRESSES DESIGN INTENT, AND FINAL SELECTIONS WILL BE DETERMINED BY SPECIES AVAILABILITY.
- EXISTING INVASIVE SHRUBS IN THE 25' BUFFER ZONE, INCLUDING EUONYMOUS, BLACKTHORN AND BITTERSWEET, WILL BE REPLACED WITH NATIVE, NON-INVASIVE PLANTINGS.

LANDSCAPE NOTES  
1/4" = 1'-0"



LANDSCAPE  
1" = 10'-0"



PROJECT: **96 LAKE ZNE**

PROJECT ADDRESS: 96 LAKE AVE NEWTON MA

TAX ASSESSOR PARCEL #:

ARCHITECT: **PLACETAILEDOR, INC.**  
103 TERRACE STREET  
ROXBURY, MA 02120

CONSULTANTS

**STRUCTURAL ENGINEER**  
STUDIO NYL  
2995 Baseline Rd UNIT 314,  
Boulder, CO 80303

**CIVIL ENGINEER**  
Merrill Engineers and Land Surveyors  
427 Columbia Rd # 2, Hanover, MA 02339

CLIENT: **WARBRUG**  
96 LAKE AVE NEWTON, MA

MARK	DATE	DESCRIPTION

SUBMISSION DATE: **07/29/2021**

**CON-COMM**

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7/29/2021 11:27:18 AM

**LANDSCAPE PLAN**

**A0-51**

# CONSERVATION COMMISSION MINUTES

Date: July 15, 2021

Time: 7:00pm – 9:26pm

Place: This meeting was held as a virtual meeting via Zoom.

<https://us02web.zoom.us/j/82178801384>

**With a quorum present**, the meeting opened at 7:00pm with Dan Green presiding as Chair.

**Members Present:** Leigh Gilligan, Judy Hepburn, Ellen Katz, Kathy Cade, Jeff Zabel, and Susan Lunin.

**Members Absent:** none

**Staff Present:** Jennifer Steel and Claire Rundelli

**Members of the Public:** not recorded due to remote nature of the meeting

## DECISIONS

### I. WETLANDS DECISIONS

1. **(7:00) 160 Pine Street – NOI – retaining wall replacement – DEP File #239-XXX**
  - **Owner/Applicant:** David Altman, Advantage Property Management **Representative:** Eric Denardo, Environmental Strategies and Management, Inc.
  - **Request:** Issue an OOC.
  - **Documents Presented:** Colored plans, site photos, draft OOC
  - **Jurisdiction:** Buffer Zone, City Flood Zone
  - **Project Summary**
    - Replace an existing, failing wooden retaining wall with a Redi-Rock retaining wall (roughly 41 inches thick). The wall will be 4' high for roughly 24' feet and 7' high for roughly 57'.
    - Erosion controls are proposed between the wall and the stream, along with additional tree protection for the twin black locust.
  - **Presentation (Eric Denardo) and Discussion**
    - At the time of this meeting, a DEP file number has not been received and so the hearing cannot be closed.
    - The applicant's representative provided a summary of the proposed work, explicitly stating that the proposed wall is shown no closer to the stream and that means & methods will need to be determined with the selected contractor.
    - Staff walked the Commission through a virtual site visit and Commissioners noted that the retaining wall along the rear of the driveway is buckling out at the bottom which is quite dangerous.
    - The applicant responded to staff concerns and stated that they are proposing for no work beyond the front face of the retaining wall, and that the erosion controls (entrenched silt fence) would be placed between the wall and the tree. The existing conditions plans can be altered to more accurately reflect the site conditions.
    - Commissioners brought up the need for a footing for the new retaining wall which would push disturbance out. The applicant's representative stated that this type of retaining wall (Redi-Rock) is designed to not need footings beyond a small crushed stone pad.
    - Commissioners reminded the project team that a wall this tall needs to be appropriately engineered.
    - Staff repeated concerns about how the excavation for the new wall would occur. The applicant's representative clarified that the excavation would go back at a 1:1 ratio so the excavation would begin 7' back from the existing wall to allow for that.
    - Staff repeated a number of concerns regarding the issues that have been brought up in staff comments multiple times and have not been addressed by the applicant team. These included a lack of topography on the plan, lack of understanding of how the methods and means will impact the surrounding area, and based on the new information given in the previous bullet, where the stockpile of soil removed during that excavation would be going.



**Mayor**  
Ruthanne Fuller

**Director  
Planning &  
Development**  
Barney Heath

**Chief  
Environmental  
Planner**  
Jennifer Steel

**Assistant  
Environmental  
Planner**  
Claire Rundelli

**Conservation  
Commission  
Members**  
Kathy Cade  
Dan Green  
Judy Hepburn  
Ellen Katz  
Susan Lunin  
Jeff Zabel  
Leigh Gilligan

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- The applicant’s representative explained that they felt what had been provided was sufficient and that they are aware that they are within the buffer and that the project will be executed appropriately.
- Staff brought up that the plans will be interpreted by the contractors as they are written, so additional notes and clearer instructions need to be on the plans. On the current plan set, means that erosion controls would be set up 3’ from the base of the wall, which in some places would end up in the stream.
- Commissioners stated that they agree with staff that project is not ready for closing.
- **Staff Recommendations:** To continue the hearing to 8/5/21 to allow for a file number to be issued and for the applicant to address the concerns of the staff and Commission, which are summarized below. [Motion: Leigh Gilligan; Second: Susan Lunin; Roll-call vote: Green (aye), Hepburn (aye), Cade (aye), Gilligan (aye), Katz (aye), Zabel (aye), Lunin (aye); Vote 7:0:0]
  - Provide clarification on construction methods.
  - Ensure that plans are stamped and fully dated.
  - Catch-basins should be shown on the plans as to be protected.
  - Ensure plans accurately reflect topography and erosion control details (including stockpiling areas).

**2. (7:20) 942-944 Watertown Street – Compliance Discussion – new duplex – DEP File #239-427**

- **Owner/Applicant:** Janet Edsall Fields **Representative:** Stephen Fields and John Rockwood, EcoTec, Inc.
- **Request:** Approve the restoration plan.
- **Documents Presented:** none
- **Jurisdiction:** Buffer Zone, Riverfront Area, BLSF, City Floodplain
- **Project Summary:**
  - This application is an effort to bring the site into compliance with an old, expired OOC. Asphalt expansion, patio construction, and lack of mitigation plants all needed to be addressed in a new plan.
  - For Rear Enhancement Area project proposal
    - Install compost sock as shown on plans.
    - Remove fence panels and post and dispose of off-site.
    - Remove wooden retaining wall at fence; reuse wood for retaining wall repairs or dispose off-site.
    - Remove soil held by retaining wall, fill fence post holes, round off top of slope, remove excess soil from site
    - Remove patio blocks and underlying soils to match adjacent grades with loamy topsoil.
    - Mark out proposed lawn area, and seed/sod the area that was formerly patio.
    - Scalp existing lawn in areas to become enhancement plantings.
    - Remove and treat a limited number of winged euonymus shrubs and Norway maples.
    - Plant native species according to plan. To include: 14 hedge shrubs, 4 understory saplings, and 22 shrubs.
    - Water and mulch enhancement areas. 4:1 mixture of leaf mulch and natural colored bark mulch.
    - Install bounds around enhancement planting area.
    - Water regularly and once area is stable remove erosion controls.
  - For Front Pollinator Gardens
    - Remove existing landscape plants and grub root masses. Remove lawn.
    - Turn over soil to a depth of 6”. Plant native species according to plan. To include (in each): 3 shrubs, and 12 perennials.
    - Water and mulch pollinator garden areas. 4:1 mixture of leaf mulch and natural colored bark mulch.
    - Install bounds.
    - Water regularly.
- **Presentation (John Rockwood) and Discussion:**
  - Prior to the meeting, the applicant’s representative did provide clarification that 5-6 euonymus shrubs, 1 Norway maple shrub, and 1 very small Norway maples sapling are proposed to be removed. No mature trees are proposed to be removed at this time
  - The applicant’s representative provided a summary of the proposed restoration.
  - Commissioner’s asked about the height of the two retaining walls and noted that they are quite short. The applicant’s representative stated that the excess soil in the rear where the retaining walls will either be rounded off or removed. The goal is to not raise the grade as this is flood zone.

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- Staff and Commissioner’s agreed that this is a complicated site to work with, that there isn’t very much and that the proposed plan does seem to meet all the previous concerns.
- Commissioner’s stated that they would like to see a mix of Arborvitae and Eastern Red Cedar to ensure that the entire hedge doesn’t die off if the conditions aren’t appropriate for one or the other species, even mixing a 3<sup>rd</sup> species (Spruce) to the mix. The species should be clumped in groups of 3-4 to ensure there aren’t just odd gaps. The applicant team agreed to a mix of the species.
- Vote: To approve the restoration plan, noting the invasive removal and a mix of evergreens along the back-property line, to allow the site to be brought into compliance. [Motion: Leigh Gilligan; Second: Kathy Cade; Roll-call vote: Green (aye), Hepburn (aye), Cade (aye), Gilligan (aye), Katz (aye), Zabel (aye), Lunin (aye); Vote 7:0:0]

**3. (7:40) Charles River Lower Basin – NOI – vegetation management – DEP File #239-XXX**

- Owner/Applicant: Mass. Department of Conservation and Recreation Representative: Kara Sliwoski, SOLitude
- Request: Issue an OOC.
- Documents Presented: Plans, site photos, draft OOC
- Jurisdiction: BVW, Bank, LUWW
- Project Summary
  - Management of invasive species within the Charles River through mechanical harvesting, hand-pulling, Sonar herbicide (active ingredient: fluridone), ProcellaCOR EC herbicide (florpyrauxifen-benzyl), Tribune herbicide (diquat), Clearcast herbicide (imazamox), and Red Eagle/Clipper herbicide (flumioxazin).
  - Conditional use of algaecides for the management of algae blooms, if necessary, in the event of a health hazard.
- Presentation (Keith Gazaille) and Discussion:
  - At the time of this meeting a DEP file number has not been received, so the hearing cannot be closed.
  - DCR is requesting a 5-year Order of Conditions for this project.
  - Three other communities (Cambridge, Boston, Watertown) in the Lower Basin are reviewing the same NOI (and one has required a 3<sup>rd</sup> party review).
  - The peer review report was received and was forwarded to the Commission two days prior to the meeting. The report concludes that the Lower Basin is in bad shape and treatment is definitely needed, but that there are a number of concerns with the proposal. Specifically, the peer reviewer notes the need for specificity and stated their recommendation that an independent monitor be used.
  - Staff stated that they are hoping to issue concurrently with the other 3 communities to see DCR receiving essentially 1 Order of Conditions (4 OOCs with very similar conditions).
  - Staff walked the Commission through the responses received from the applicant team including the clearer map, calendar of treatments, and details on thresholds.
  - Staff brought up the newer concerns brought up in the detailed agenda, and listed below.
    - Third-Party Environmental Monitor – staff brought up the concerns that staff in each individual community will likely not have time to appropriately monitor this project. The applicant’s response to this concern is that it is felt that a monitor may add unnecessary cost and complexity to the project. They did state that DCR will go out to monitor the work, and staff noted this could be conditioned, or the Commission could require a third-party monitor to be shared among the communities. The peer reviewer does note that he questions the claim of “improvement” made by the applicant in that the removal of these invasive species will improve the river from an ecological standpoint, in that the natives that will replace the invasives have the same ecological value in many cases. Staff noted that this is a lesser issue as it seems all parties agree that this project is necessary.
    - Map clarification – staff noted that clarification was received from the project team and that the map represents the maximum extent possible of treatment areas.
    - Tribune, Clearcast, or Flumioxazin – staff noted their concern that these chemicals are not noted in the calendar at all. While they may not be needed at all, and there isn’t a need for exact thresholds or areas to be treated, but we need to understand that what conditions would warrant treatment. There is a need to condition future communication and updates to ensure there is engagement with the Commission.
    - Thresholds – staff repeated concerns about use of herbicides without thresholds, though noted that it is indeed necessary to allow for flexibility. Staff stated that they need to understand how types of invasive species will be treated and with what, depending on specific densities.

- Water Chestnut Disposal Sites – staff noted that clarification was received that no “on-site” disposal is planned for water chestnut, but that it is to be removed and disposed of off-site, at an upload disposal facility.
- The applicant’s representative asked for more clarification from the Commission on what they are looking for in terms of specificity on thresholds. Staff asked if there was more being looked at then size of infestation, type of species, concentration of specific herbicide? The applicant’s representative stated while the thought process is similar for each species/herbicide, that the overall outcome is dependent on too many variables to be able to able to provide a clear matrix of decisions.
- Commissioners noted that many of these projects involve “learning as we go” due the changing nature of these types of systems; and noted the Lakes District as an example, where they have been successful in removing 1 invasive, are now facing other invasives that have taken advantage of the “opening” made.
- The Commission understands that the experts in the field may need this kind of flexibility and may find it hard to predict in 5 years time what things will look like and require, especially because this is an open area versus the contained Lakes. Staff stated that they are not looking to permit outcomes but that the Commission’s duty is to ensure that no damage is being done to these resources.
- Staff noted that a possible solution to the need for clarity would be to define “prohibitions” (i.e., don’t do \_\_\_\_ unless \_\_\_\_ ) and that they just want to ensure the Commission isn’t issuing a blank check for herbicide application.
- It was noted that by staff that in conversations with Dept. of Marine Fisheries (DMF), they stated their support of the project and will be ensuring that annual reporting will be given to them to ensure that timing requirements and treatment requirements are approved. Staff want to ensure that the Commission is engaged as the project moves forward that as conditions change and treatments are decided.
- Anne Carroll, DCR, who joined later in the meeting, repeated what was stated in the formal response submitted, hat they feel that a third-party monitor is unnecessary, because their staff is often out checking the contractor and there are also involved community stakeholders on this project (CRWA and The Nature Conservancy). They also stated that because it is so easy for DCR staff to check what the contractor is saying, they have not really encountered any issues with this in the past.
- Staff asked what the regulatorily appropriate language could be committed to by DCR for use in the project conditions. DCR stated “DCR staff will verify the accuracy of the plant survey with a site visit.” They also stated that they would be willing to come back before the Commission in May after every initial, pre-management survey to review the findings, along with a post-management survey report back in Oct./Nov.
- Commissioners asked why a matrix like the one provided in the peer review report could be used for this type of project, and a column added to that matrix to allow for some simplistic thresholds. DCR responded that they do have some thresholds used in-house, but those mainly differentiate between mechanical versus chemical treatment and would not be relevant to this project scope.
- Commissioners again tried to clarify their need for specificity and asked how the “maybe” in the process moves to an action. DCR responded that they will treat whatever they see either with spot treatment or broader treatment it will be treated using the techniques provided.
- Staff attempted to summarize that the goal of the project for this year is to treat with ProcellaCOR (per the calendar provided) to reduce biomass and open up recreational channels, and then in the following years pursue more treatments using ProcellaCOR or Sonar (per the provided calendar) based on a larger area plant survey (including more upstream areas). Staff asked if this approval language would satisfy DCR’s needs, with the allowance that contingency herbicides may be documented in a sort of “appendix” and could be used with approval from the Commission, either as a minor plan change or an amendment, if significant.
- The project’s representative asked how an amendment request could be avoided through the language above. Commissioner’s and staff stated that they feel if the scope of the project is maintaining invasives in the River, then no amendments would be necessary, only informal minor plan change discussions to use Tribune, Clearcast, or Flumioxazin if needed.
- Staff stated that they would want to ensure that the other communities involved in this project would also need to be on board with the solution proposed (tighter narrative, schedule, details of engagement with the Commission, appendix detailing alternate herbicides). DCR asked if the requested revised material submissions would need to be submitted by them or if it could be conditioned by staff in the OOC. Staff stated it would need to be submitted by them so that it can be referenced as the “plan of record” in the OOC.

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- Staff asked for one final clarification on the commitment from DCR to “check up” on SOLitude’s work, and stated that DCR should propose something that is workable (e.g., DCR commits to follow up on 25% of SOLitude’s work/ or 1 out of 4 site visits/ etc.).
- Staff noted that revised materials must be submitted no later than 7/27/21 to allow for staff review prior to the release of the 8/5/21 detailed agenda.
- Staff Recommendations: Vote to continue to the hearing to 8/5/21 to allow for a file number to be issued and a “slimmer” narrative to be submitted to clarify the points that the Commission is concerned about. [Motion: Ellen Katz; Second: Susan Lunin; Roll-call vote: Green (aye), Hepburn (aye), Cade (aye), Gilligan (aye), Katz (aye), Zabel (aye), Lunin (aye); Vote 7:0:0]

**4. (8:20) 1897 Washington Street (Woodland Golf Club) – informal discussion**

- Owner/Applicant: Steve Kohr, Woodland Golf Club Representative: Jon Randall, Member
- Request: Determine if proposed “low-mow” area plan is appropriate.
- Documents Presented: Sketch plan, seed mix details
- Jurisdiction: Buffer Zone, City flood zone (but note, there are no changes to land cover or grade involved with this project).
- Presentation (Jon Randall and Steve Kohr) and Discussion
  - Staff walked through the reason this item is before the Commission (restoration area required under irrigation DOA) and what the applicant is proposing.
  - The applicant’s representative stated that they have actually been leaving this stream course unmowed since the DOA issuance and it has grown up. They have also considered further improvements to the 9<sup>th</sup> hold pond and have hired Beals & Thomas to develop a plan. The Club expects to bring that plan back before the Commission when it is ready.
  - The seed has been acquired and is ready to go down as soon as this plan is approved, and that work is anticipated to start on the irrigation in August.
  - Commissioner’s asked if the low-mow strip off turf grass could go wider than 2’, as on a recent visit it was noted that this area is a “no-man” land. The applicant’s representative stated that they are trying to balance the course architect’s vision and the Commission’s desires. Commissioner’s understand the need for balance and just noted that if there are areas where things can go wider it would be appreciated.
  - Commissioner’s asked if the stream had been placed accurately, and the applicant’s representative stated that the stream shown was located down to the foot by the irrigation engineer.
  - Commissioner’s asked if there would be any markings in the field to demarcate these areas. The applicant’s representative stated that red hazard stakes will be placed in the field.
- Consensus: The proposed plan is appropriate, and any considerations for making the low-mow area wider would be appreciated.

**5. (8:40) 1 Malvern Terrace – OOC Extension Request – new single-family home – DEP File #239-808**

- Owner: Mandayam Srinivasan Representative: none
- Request: Issue OOC extension for 3 years.
- Documents Presented: summary plan, site photos
- Staff Notes: The owner, upon learning about the tolling extension applied to his permit which extends the expiration to November 15, 2022, has requested to withdraw his extension request.
- Consensus: Accept the withdrawal of the extension request for OOC #239-808.

**6. (8:50) 116 Upland Avenue – COC Request – teardown/rebuild SFH – DEP #239-824**

- Owner: Ilya Zvenigorodskiy Representative: none
- Request: Issue COC.
- Documents Presented: photos
- Discussion: All required COC materials have been received and a site visit on 5/21/21 confirmed compliance, including compliance with the required removal of the deck/crawlspace lath enclosing the flood storage area.
- Vote: To issue a Certificate of Compliance. [Motion: Leigh Gilligan; Second: Jeff Zabel; Roll-call vote: Green (aye), Hepburn (abstain), Cade (aye), Gilligan (aye), Katz (abstain), Zabel (aye), Lunin (aye); Vote 7:0:0]

**II. CONSERVATION AREA DECISIONS**

**III. ADMINISTRATIVE DECISIONS**

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**7. (9:00) Ban on Nip (alcohol) Sales – discussion regarding support letter for council docket**

- Documents Presented: Draft letter of support from entire Commission
- Staff Notes:
  - Commissioner Ellen Katz drafted a letter to the City Council supporting the ban of nip alcohol bottles in the City of Newton for signing by the Commission. Jennifer suggested some edits.
  - Commissioner's requested that the word unnecessary be removed to avoid allowing the liquor store owners from making the argument that the sales are necessary.
- Vote: To sign the edited version of the letter supporting Councilor Norton's docketed item regarding the ban on selling nip alcohol bottles in Newton. [Motion: Susan Lunin; Second: Kathy Cade; Roll-call vote: Green (aye), Hepburn (aye), Cade (aye), Gilligan (aye), Katz (aye), Zabel (abstain), Lunin (aye); Vote 7:0:0]

**8. (9:10) Minutes of 6/24/21 to be approved**

- Documents Presented: Draft 6/24/21 minutes
- Vote: To accept the 6/24/21 minutes. [Motion: Kathy Cade; Second: Leigh Gilligan; Roll-call vote: Green (aye), Hepburn (aye), Cade (aye), Gilligan (aye), Katz (aye), Zabel (aye), Lunin (aye); Vote 7:0:0]

**IV. ISSUES AROUND TOWN DECISIONS**

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**UPDATES**

**V. WETLANDS UPDATES**

**VI. CONSERVATION AREA UPDATES**

- Stairs from the Greenway to the Riverwalk: The estimate from another contractor was \$174,000. We will need to find another solution. A member of the public, representing the Upper Falls Area Council, asked why box stairs were the chosen design. Staff clarified that box stairs allow for more flexibility in the field, and that stringer stairs require too much specificity in footing placement. Footings which may be difficult to secure because of the embankment material.
- Riverwalk bike rack: An Eagle Scout may be interested in installing the rack on a platform and in doing other improvements to the site.

**VII. ISSUES AROUND TOWN UPDATES**

- Christina Street Bridge Feasibility Study: The report has been completed and is available at: <https://www.newtonma.gov/government/planning/transportation-planning/projects/christina-street-bridge>. The preferred option is a new pre-fab, single-span, truss bridge in the bridge's current location. We await word on federal funding.
- OSRP: Final has been submitted to the state for approval. Requests have been entered for ARPA funds.
- Stormwater Ordinance: in final review by DPW and Law.

**VIII. ADMINISTRATIVE UPDATES**

- Budget increase received.
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**OTHER TOPICS NOT REASONABLY ANTICIPATED BY THE CHAIR 48 HOURS BEFORE THE MEETING**

**ADJOURN** at 9:26pm. [Motion: Jeff Zabel; Second: Leigh Gilligan; Roll-call vote: Green (aye), Hepburn (aye), Cade (aye), Gilligan (aye), Katz (aye), Zabel (aye), Lunin (aye); Vote 7:0:0]