

DEP FILE #: \_\_\_\_\_

---

## NOTICE OF INTENT

### Proposed Marijuana Cultivation Facility and Related Site Work

---

**Property Location:**

*0 Quarry Road  
Map 416 Lot 10  
Becket, MA 01223*

**Applicant:**

*Tetrahydra Agtek, LLC  
C/O Michael Goodenough  
123B Seaview Avenue  
South Yarmouth, MA 02664*

**Property Owner:**

*Happy Medium LLC  
C/O Adrienne Metcalf  
509 Quarry Road  
Becket, MA 01223*

**Civil Engineer:**

*Foresight Land Services, Inc.  
1496 West Housatonic Street  
Pittsfield, MA 01201*

**April 2022**

FLS Project # E2988

**FORESIGHT**  
LAND SERVICES



---

ENGINEERING · SURVEYING · PLANNING · ENVIRONMENTAL PERMITTING

**TABLE OF CONTENTS**  
*Supplemental Exhibits to a Notice of Intent*  
*Submitted to the Becket Conservation Commission*  
*for Proposed Marijuana Cultivation Facility and Related Site Work*  
*0 Quarry Road*  
*Becket, MA 01223*

**Wetlands Protection Act Form 3 - Notice of Intent**

---

Attachment 1:	Wetland Fee Transmittal Form
Attachment 2:	Affidavit of Service
Attachment 3:	Abutter Notification Letter
Attachment 4:	100' Abutter List & Copies of Certificates of Mailing

Exhibit A ..... Figures

A-1	USGS Location Map (East Lee QUAD, 1987)
A-2	USDA Web Soil Survey Map
A-3	Priority Habitats and Estimated Habitats- Effective August 1, 2017 East Lee QUAD, Priority Habitats for use with MA Endangered Species Act Regulations (321 CMR 10) Estimated Habitats for use with MA Wetlands Protection Act Regulations (310 CMR 10)
A-4	FEMA Flood Insurance Rate Map
A-5	Assessors Map #416 Lot #10

Exhibit B ..... Project Narrative, Foresight Land Services, Inc.

B-1	Massachusetts River and Stream Crossing Standards Compliance Statement
-----	---

Exhibit C ..... Construction-Phase Measures for the Control of Sediment and the  
Protection of Wetlands

Exhibit D ..... Property Deed

Exhibit E ..... Existing Conditions Site Photographs

Exhibit F ..... MassDEP Wildlife Habitat Protection Guidance

F-1	Appendix A: Simplified Wildlife Habitat Evaluation
F-2	Appendix B: Detailed Wildlife Habitat Evaluation

Exhibit G ..... Stormwater Report – Dated: April 4, 2022  
Foresight Land Services, Inc.

Exhibit H..... Proposed Site Plan Set – Dated: April 4, 2022  
Foresight Land Services, Inc.

C-0	Cover Sheet & Sheet Index
C-1	Existing Conditions
C-2	Proposed Site Plan
C-3	Grading, Drainage and Erosion Control Plan 1
C-3A	Stream Crossing Plan & Cross Sections
C-3B	Stream Crossing Water Control Plan

C-4	Grading, Drainage and Erosion Control Plan 2
C-5	Utility Plan 1
C-6	Utility Plan 2
C-7	Details 1
C-8	Details 2
C-9	Details 3
C-10	Details 4



Massachusetts Department of Environmental Protection

## **eDEP Transaction Copy**

---

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username: **4SITE**

Transaction ID: **1340909**

Document: **WPA Form 3 - NOI**

Size of File: **248.56K**

Status of Transaction: **In Process**

Date and Time Created: **3/16/2022:10:26:42 AM**

**Note:** This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to "Download a Copy" from the Current Submittals page.



Massachusetts Department of Environmental  
Protection  
Bureau of Resource Protection - Wetlands  
**WPA Form 3 - Notice of Intent**  
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:  
MassDEP File #:  
eDEP Transaction #:1340909  
City/Town:BECKET

**A.General Information**

1. Project Location:

a. Street Address	0 QUARRY ROAD	c. Zip Code	01223
b. City/Town	BECKET	e. Longitude	73.02088W
d. Latitude	42.25265N	g.Parcel/Lot #	10
f. Map/Plat #	416		

2. Applicant:

☐ Individual ☒ Organization

a. First Name	MICHAEL	b.Last Name	GOODENOUGH
c. Organization	TETRAHYDRA AGTEK, LLC		
d. Mailing Address	123B SEAVIEW AVENUE		
e. City/Town	SOUTH YARMOUTH	f. State	MA
g. Zip Code	02664		
h. Phone Number		i. Fax	
j. Email	mike@sweetheal.com		

3.Property Owner:

☐ more than one owner

a. First Name	ADRIENNE	b. Last Name	METCALF
c. Organization	HAPPY MEDIUM, LLC		
d. Mailing Address	509 QUARRY ROAD		
e. City/Town	BECKET	f.State	MA
g. Zip Code	01223		
h. Phone Number		i. Fax	
j.Email	BVINCENT@AFSVINSURANCE.COM		

4.Representative:

a. First Name	STEVEN	b. Last Name	MACK
c. Organization	FORESIGHT LAND SERVICES, INC.		
d. Mailing Address	1496 WEST HOUSATONIC STREET		
e. City/Town	PITTSFIELD	f. State	MA
g. Zip Code	01201		
h.Phone Number	413-499-1560	i.Fax	413-499-3307
j.Email	smack@foresightland.com		

5.Total WPA Fee Paid (Automatically inserted from NOI Wetland Fee Transmittal Form):

a.Total Fee Paid	2,500.00	b.State Fee Paid	1,237.50	c.City/Town Fee Paid	1,262.50
------------------	----------	------------------	----------	----------------------	----------

6.General Project Description:

PROPOSED MARIJUANA CULTIVATION FACILITY CONSTRUCTION AND RELATED SITE WORK.

7a.Project Type:

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Single Family Home                | 2. <input type="checkbox"/> Residential Subdivision                  |
| 3. <input type="checkbox"/> Limited Project Driveway Crossing | 4. <input checked="" type="checkbox"/> Commercial/Industrial         |
| 5. <input type="checkbox"/> Dock/Pier                         | 6. <input type="checkbox"/> Utilities                                |
| 7. <input type="checkbox"/> Coastal Engineering Structure     | 8. <input type="checkbox"/> Agriculture (eg., cranberries, forestry) |
| 9. <input type="checkbox"/> Transportation                    | 10. <input type="checkbox"/> Other                                   |

7b.Is any portion of the proposed activity eligible to be treated as a limited project subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

WPA Form 3 - Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:  
MassDEP File #:  
eDEP Transaction #:1340909  
City/Town:BECKET

1. ☐ Yes ☒ No If yes, describe which limited project applies to this project:  
2. Limited Project

8. Property recorded at the Registry of Deeds for:

a. County:	b. Certificate:	c. Book:	d. Page:
MIDDLE BERKSHIRE	NA	6944	62

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

1. Buffer Zone & Resource Area Impacts (temporary & permanent):

☐ This is a Buffer Zone only project - Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.

2. Inland Resource Areas: (See 310 CMR 10.54 - 10.58, if not applicable, go to Section B.3. Coastal Resource Areas)

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
---------------	-----------------------------	-------------------------------

a. <input checked="" type="checkbox"/> Bank	55 1. linear feet	55 2. linear feet
---	----------------------	----------------------

b. <input type="checkbox"/> Bordering Vegetated Wetland	1. square feet	2. square feet
---	----------------	----------------

c. <input checked="" type="checkbox"/> Land under Waterbodies and Waterways	125 1. Square feet	125 2. square feet
---	-----------------------	-----------------------

	3. cubic yards dredged	
--	------------------------	--

d. <input type="checkbox"/> Bordering Land Subject to Flooding	1. square feet	2. square feet
--	----------------	----------------

	3. cubic feet of flood storage lost	4. cubic feet replaced
--	-------------------------------------	------------------------

e. <input type="checkbox"/> Isolated Land Subject to Flooding	1. square feet	
---	----------------	--

	2. cubic feet of flood storage lost	3. cubic feet replaced
--	-------------------------------------	------------------------

f. ☐ Riverfront Area

1. Name of Waterway (if any)

2. Width of Riverfront Area (check one)

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☐ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project

square feet

4. Proposed Alteration of the Riverfront Area:

a. total square feet      b. square feet within 100 ft.      c. square feet between 100 ft. and 200 ft.

5. Has an alternatives analysis been done and is it attached to this NOI? ☐ Yes ☐ No

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

City/Town:BECKET

☐ Yes ☐ No

1. square feet

## Page 3 of 7 \* ELECTRONIC COPY

□ **Massachusetts Department of Environmental Protection**

Bureau of Resource Protection - Wetlands

**WPA Form 3 - Notice of Intent**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File #:

eDEP Transaction #:1340909

City/Town:BECKET

1

a. number of new stream crossings

b. number of replacement stream crossings

**C. Other Applicable Standards and Requirements**

**Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review**

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage of Endangered Species program (NHESP)?

a. ☐ Yes ☒ No

If yes, include proof of mailing or hand delivery of NOI to:

Natural Heritage and Endangered Species  
Program

Division of Fisheries and Wildlife

1 Rabbit Hill Road

Westborough, MA 01581

b. Date of map:FROM MAP VIEWER

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18)....

c. Submit Supplemental Information for Endangered Species Review \* (Check boxes as they apply)

1. ☐ Percentage/acreage of property to be altered:

(a) within Wetland Resource Area

percentage/acreage

(b) outside Resource Area

percentage/acreage

2. ☐ Assessor's Map or right-of-way plan of site

3. ☐ Project plans for entire project site, including wetland resource areas and areas outside of wetland jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work \*\*

a. ☐ Project description (including description of impacts outside of wetland resource area & buffer zone)

b. ☐ Photographs representative of the site

c. ☐ MESA filing fee (fee information available at: <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/mass-endangered-species-act-mesa/mesa-fee-schedule.html> )

Make check payable to "Natural Heritage & Endangered Species Fund" and **mail to NHESP** at above address

*Projects altering 10 or more acres of land, also submit:*

d. ☐ Vegetation cover type map of site

e. ☐ Project plans showing Priority & Estimated Habitat boundaries

d. OR Check One of the following

1. ☐ Project is exempt from MESA review. Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, <http://www.mass.gov/eea/agencies/dfg/dfw/laws-regulations/cmr/321-cmr-1000-massachusetts-endangered-species-act.html#10.14>; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

2. ☐ Separate MESA review ongoing.

a. NHESP Tracking Number

b. Date submitted to NHESP

3. ☐ Separate MESA review completed.

□ **Massachusetts Department of Environmental Protection**

Bureau of Resource Protection - Wetlands

**WPA Form 3 - Notice of Intent**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File #:

eDEP Transaction #:1340909

City/Town:BECKET

---

Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

\* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review...

2. For coastal projects only, is any portion of the proposed project located below the mean high waterline or in a fish run?

a. ☒ Not applicable - project is in inland resource area only

b. ☐ Yes ☐ No

If yes, include proof of mailing or hand delivery of NOI to either:

South Shore - Cohasset to Rhode Island, and the Cape & Islands:

North Shore - Hull to New Hampshire:

Division of Marine Fisheries -  
Southeast Marine Fisheries Station  
Attn: Environmental Reviewer  
836 S. Rodney French Blvd  
New Bedford, MA 02744

Division of Marine Fisheries -  
North Shore Office  
Attn: Environmental Reviewer  
30 Emerson Avenue  
Gloucester, MA 01930

If yes, it may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional office.

3. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

a. ☐ Yes ☒ No

If yes, provide name of ACEC (see instructions to WPA Form 3 or DEP Website for ACEC locations). **Note:** electronic filers click on Website.

b. ACEC Name

4. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?

a. ☐ Yes ☒ No

5. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L.c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L.c. 130, § 105)?

a. ☐ Yes ☒ No

6. Is this project subject to provisions of the MassDEP Stormwater Management Standards?

a. ☒ Yes, Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:

1. Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook

☐ Vol.2, Chapter 3)

2. ☐ A portion of the site constitutes redevelopment

3. ☐ Proprietary BMPs are included in the Stormwater Management System

b. ☐ No, Explain why the project is exempt:

1. ☐ Single Family Home

2. ☐ Emergency Road Repair

☐ **Massachusetts Department of Environmental Protection**

Bureau of Resource Protection - Wetlands

**WPA Form 3 - Notice of Intent**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File #:

eDEP Transaction #:1340909

City/Town:BECKET

3. Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

**D. Additional Information**

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

**Online Users:** Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department by regular mail delivery.

1. USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.) ☒
2. Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area. ☒
3. Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s)). ☒
4. Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology. ☒
4. List the titles and dates for all plans and other materials submitted with this NOI. ☒

**a. Plan Title:**                      **b. Plan Prepared By:**    **c. Plan Signed/Stamped By:**    **c. Revised Final Date:**    **e. Scale:**

SEE TABLE OF  
CONTENTS

5. If there is more than one property owner, please attach a list of these property owners not listed on this form. ☐
6. Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed. ☐
7. Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed. ☐
8. Attach NOI Wetland Fee Transmittal Form. ☒
9. Attach Stormwater Report, if needed. ☒

**Massachusetts Department of Environmental Protection**  
 Bureau of Resource Protection - Wetlands  
**WPA Form 3 - Notice of Intent**  
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:  
 MassDEP File #:  
 eDEP Transaction #:1340909  
 City/Town:BECKET

## E. Fees

1. Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

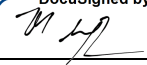
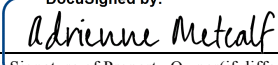

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

2. Municipal Check Number	3. Check date
4. State Check Number	5. Check date
6. Payer name on check: First Name	7. Payer name on check: Last Name

## F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

DocuSigned by: 	3/11/2022
1. Signature of Property Owner (if different)	2. Date
DocuSigned by: 	3/10/2022
3. Signature of Property Owner (if different)	4. Date
 Steven A. Mack, P.E. Foresight Land Services, Inc.	4/4/2022
5. Signature of Representative (if any)	6. Date

### For Conservation Commission:

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

### For MassDEP:

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a copy of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

### Other:

If the applicant has checked the "yes" box in Section C, Items 1-3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

**Massachusetts Department of Environmental Protection**  
Bureau of Resource Protection - Wetlands  
**WPA Form 3 - Notice of Wetland Fee Transmittal**  
**Form**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:  
MassDEP File #:  
eDEP Transaction #:1340909  
City/Town:BECKET

**A. Applicant Information**

**1. Applicant:**

a. First Name	MICHAEL	b. Last Name	GOODENOUGH
c. Organization	TETRAHYDRA AGTEK, LLC		
d. Mailing Address	123B SEAVIEW AVENUE		
e. City/Town	SOUTH YARMOUTH	f. State	MA
g. Zip Code	02664		
h. Phone Number		i. Fax	
j. Email	mike@sweetheal.com		

**2. Property Owner:(if different)**

a. First Name	ADRIENNE	b. Last Name	METCALF
c. Organization	HAPPY MEDIUM, LLC		
d. Mailing Address	509 QUARRY ROAD		
e. City/Town	BECKET	f. State	MA
g. Zip Code	01223		
h. Phone Number		i. Fax	
j. Email	BVINCENT@AFSVINSURANCE.COM		

**3. Project Location:**

a. Street Address	0 QUARRY ROAD	b. City/Town	BECKET
-------------------	---------------	--------------	--------

Are you exempted from Fee? ☐

**Note:** Fee will be exempted if you are one of the following:

- City/Town/County/District
- Municipal Housing Authority
- Indian Tribe Housing Authority
- MBTA

State agencies are only exempt if the fee is less than \$100

**B. Fees**

Activity Type	Activity Number	Activity Fee	RF Multiplier	Sub Total
A.) SITE PREPARATION (FOR DEVELOPMENT) BEYOND NOTICE OF INTENT SCOPE;	1	1050.00		1050.00
A.) EACH CROSSING FOR DEVELOPMENT OR COMMERCIAL ROAD;	1	1450.00		1450.00
		City/Town share of filing fee	State share of filing fee	Total Project Fee
		\$1,262.50	\$1,237.50	\$2,500.00



## **AFFIDAVIT OF SERVICE**

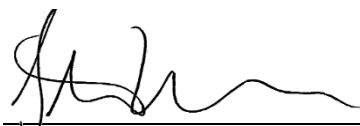
I, Steven A. Mack, hereby certify under the pains and penalties of perjury that on April 5, 2022, I gave notification to abutters in compliance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40, and the DEP Guide to Abutter Notification dated April 8, 1994, in connection with the following matter:

A Notice of Intent filed on April 5, 2022 with the Becket Conservation Commission under the Massachusetts Wetlands Protection Act by Foresight Land Services, Inc. on behalf of the applicant, Tetrahydra Agtek, LLC C/O Michael Goodenough.

The applicant proposes the following as part of this Notice of Intent: Proposed Marijuana Cultivation Facility and Related Site Work.

The form of the notification, and a list of the abutters to whom it was given and their addresses, are attached to this affidavit of service.

Foresight Land Services, Inc.

By:  April 5, 2022  
**Steven A. Mack** **Date**

Notice by:   X   Certified Mail        Hand Delivery

cc: Becket Conservation Commission  
Western Regional Office of DEP

## Notification to Abutters

By Hand Delivery, Certified Mail (return receipt requested), or Certificates of Mailing

*This is a notification required by law. You are receiving this notification because you have been identified as the owner of land abutting another parcel of land for which certain activities are proposed. Those activities require a permit under the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40).*

In accordance with the second paragraph of the Massachusetts Wetlands Protection Act, and 310 CMR 10.05(4)(a) of the Wetlands Regulations, you are hereby notified that:

- A. A Notice of Intent was filed with the Becket Conservation Commission on April 5, 2022 seeking permission to remove, fill, dredge, or alter an area subject to protection under M.G.L. c. 131 §40. The following is a description of the proposed activity/activities:

Proposed Marijuana Cultivation Facility and Related Site Work.

- B. The name of the applicant is: Tetrahedra Agtek, LLC C/O Michael Goodenough.
- C. The address of the land where the activity is proposed is: 0 Quarry Road, Becket, MA 01223.
- D. Copies of the Notice of Intent may be examined or obtained at the office of the Becket Conservation Commission, located at Becket Town Hall, 557 Main Street, Becket, MA 01223. The regular business hours of the Commission are TBD according to the Town website, and the Commission may be reached at (413) 623-8934 Ext. 129.
- E. Copies of the Notice of Intent may be obtained from the applicant's representative by calling Foresight Land Services, Inc. at 413-499-1560. An administrative fee may be applied for providing copies of the NOI and plans.
- F. Information regarding the date, time, and location of the public hearing regarding the Notice of Intent may be obtained from the Becket Conservation Commission. Notice of the public hearing will be published at least five business days in advance, in the Berkshire Eagle.

Notification provided pursuant to the above requirement does not automatically confer standing to the recipient to request Departmental Action for the underlying matter. See 310 CMR 10.05(7)(a)4.



# 100 foot Abutters List Report

Becket, MA  
March 29, 2022

## Subject Properties:

Parcel Number: 416-10  
CAMA Number: 416-10  
Property Address: 509 QUARRY ROAD

Mailing Address: METCALF ADRIENNE K ET AL  
WESTMORELAND ANNE  
509 QUARRY ROAD  
BECKET, MA 01223

Parcel Number: 416-10  
CAMA Number: 416-10.10  
Property Address: 0 QUARRY ROAD

Mailing Address: METCALF ADRIENNE K ET AL  
WESTMORELAND ANNE  
509 QUARRY ROAD  
BECKET, MA 01223

Parcel Number: 416-10  
CAMA Number: 416-10F  
Property Address: QUARRY ROAD

Mailing Address: METCALF ADRIENNE K ET AL  
WESTMORELAND ANNE  
509 QUARRY ROAD  
BECKET, MA 01223

## Abutters:

Parcel Number: 416-12.01  
CAMA Number: 416-12.10  
Property Address: QUARRY ROAD

Mailing Address: KILLEEN ROBERT D TRUSTEE KILLEEN  
BESSIE G TRUSTEE  
50 2ND AVENUE  
WEST HAVEN, CT 06516-5116

Parcel Number: 416-19  
CAMA Number: 416-19  
Property Address: QUARRY ROAD

Mailing Address: METCALF ADRIENNE ET AL  
WESTMORELAND ANNE  
509 QUARRY ROAD  
BECKET, MA 01223

Parcel Number: 416-21  
CAMA Number: 416-21  
Property Address: 737 BONNY RIGG HILL ROAD

Mailing Address: KOPESKI JOSEPH D  
23 TOURTELOTTE ST  
CHICOPEE, MA 01013

Parcel Number: 416-25  
CAMA Number: 416-25  
Property Address: 949 BONNY RIGG HILL ROAD

Mailing Address: DEFOREST RUSSELL FREDERICK  
DEFOREST JENNIFER LESLIE  
131 1ST AVENUE  
STATE COLLEGE, PA 16801-7416

Parcel Number: 416-26  
CAMA Number: 416-26  
Property Address: 456 QUARRY ROAD

Mailing Address: BECKET LAND TRUST INC  
PO BOX 44  
BECKET, MA 01223-0044

Parcel Number: 416-26  
CAMA Number: 416-26F  
Property Address: 456 QUARRY ROAD

Mailing Address: BECKET LAND TRUST INC  
PO BOX 44  
BECKET, MA 01223-0044

Parcel Number: 416-9  
CAMA Number: 416-9  
Property Address: QUARRY ROAD

Mailing Address: METCALF ADRIENNE WESTMORELAND  
ANNE  
509 QUARRY ROAD  
BECKET, MA 01223



www.cai-tech.com

Data shown on this report is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this report.

3/29/2022

Page 1 of 1



**UNITED STATES**  
**POSTAL SERVICE**  
**Certificate Of Mailing**

To pay fee, affix stamps or meter postage here.

This Certificate of Mailing provides evidence that mail has been presented to USPS® for mailing.  
This form may be used for domestic and international mail.

From:

**Foresight Land Services, Inc.**  
**1496 West Housatonic Street**  
**Pittsfield, MA 01201**

ZIP 01201  
02-7H  
0001272611  
\$ 001.65  
APR 05 2022

To: Postmark Here

**Robert D. Killeen Trustee &**  
**Bessie G. Killeen Trustee**  
**7 Locke Road**  
**Billerica, MA 01821**

PS Form 3817, April 2007 PSN 7530-02-000-9065



**UNITED STATES**  
**POSTAL SERVICE**  
**Certificate Of Mailing**

To pay fee, affix stamps or meter postage here.

This Certificate of Mailing provides evidence that mail has been presented to USPS® for mailing.  
This form may be used for domestic and international mail.

From:

**Foresight Land Services, Inc.**  
**1496 West Housatonic Street**  
**Pittsfield, MA 01201**

ZIP 01201  
02-7H  
0001272611  
\$ 001.65  
APR 05 2022

To: Postmark Here

**Joseph D. Kopeski**  
**23 Tourtelotte St.**  
**Chicopee, MA 01013**

PS Form 3817, April 2007 PSN 7530-02-000-9065



**UNITED STATES**  
**POSTAL SERVICE**  
**Certificate Of Mailing**

To pay fee, affix stamps or meter postage here.

This Certificate of Mailing provides evidence that mail has been presented to USPS® for mailing.  
This form may be used for domestic and international mail.

From:

**Foresight Land Services, Inc.**  
**1496 West Housatonic Street**  
**Pittsfield, MA 01201**

ZIP 01201  
02-7H  
0001272611  
\$ 001.65  
APR 05 2022

To: Postmark Here

**Russell Frederick Deforest &**  
**Jennifer Leslie Deforest**  
**131 1st Avenue**  
**State College, PA 16801-7416**

PS Form 3817, April 2007 PSN 7530-02-000-9065



**UNITED STATES**  
**POSTAL SERVICE**  
**Certificate Of Mailing**

To pay fee, affix stamps or meter postage here.

This Certificate of Mailing provides evidence that mail has been presented to USPS® for mailing.  
This form may be used for domestic and international mail.

From:

**Foresight Land Services, Inc.**  
**1496 West Housatonic Street**  
**Pittsfield, MA 01201**

ZIP 01201  
02-7H  
0001272611  
\$ 001.65  
APR 05 2022

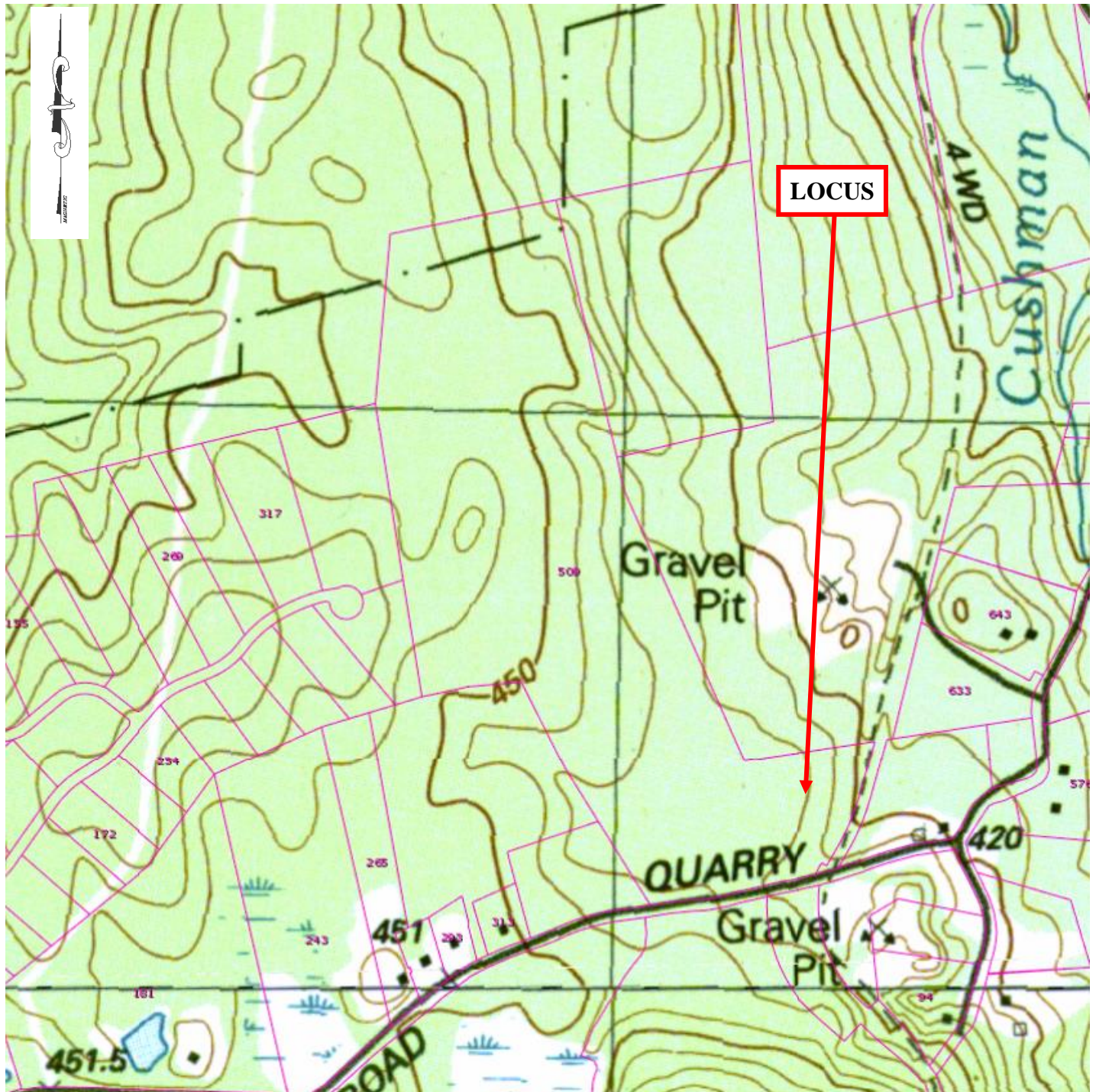
To: Postmark Here

**Becket Land Trust Inc.**  
**P.O. Box 44**  
**Becket, MA 01223-0044**

PS Form 3817, April 2007 PSN 7530-02-000-9065



UNITED STATES GEOLOGICAL SURVEY MAP



N.T.S.

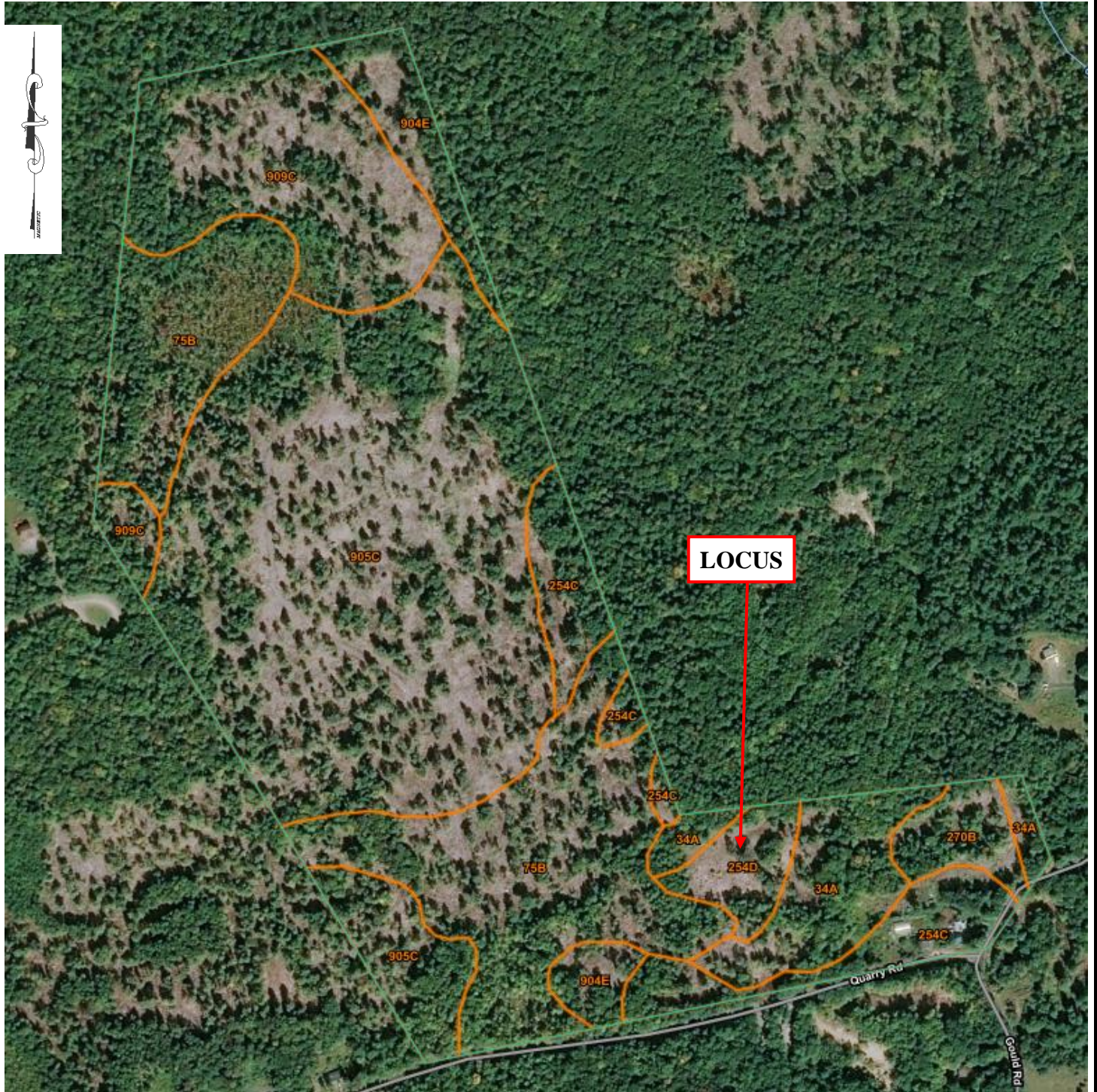
**FORESIGHT LAND SERVICES, INC.**  
ENGINEERING • SURVEYING • PLANNING  
1496 West Housatonic Street  
Pittsfield, MA 01201  
  
FLS Project #E2988

**Exhibit A-1**  
**USGS Becket QUAD, 1987 ed.**  
Source MASSGIS

0 Quarry Road  
Becket, MA



## USDA WEB SOIL SURVEY MAP



N.T.S.

See next page for soil details

**FORESIGHT LAND SERVICES**  
ENGINEERING • SURVEYING • PLANNING  
1496 West Housatonic Street  
Pittsfield, MA 01201  
  
FLS Project #E2988

**Exhibit A-2**  
**USDA Web Soil Survey**

0 Quarry Road  
Becket, MA

## USDA WEB SOIL SURVEY MAP

Map Unit Symbol	Map Unit Name
<b>34A</b>	<b>Fredon fine sandy loam, 0 to 3 percent slopes</b>
75B	Pillsbury fine sandy loam, 0 to 8 percent slopes, very stony
254C	Merrimac fine sandy loam, 8 to 15 percent slopes
<b>254D</b>	<b>Merrimac fine sandy loam, 15 to 25 percent slopes</b>
270B	Hero loam, 3 to 8 percent slopes
904E	Lyman-Tunbridge association, 15 to 60 percent slopes, extremely stony
905C	Peru-Marlow association, 3 to 15 percent slopes, extremely stony
909C	Tunbridge-Lyman association, 3 to 15 percent slopes, extremely stony

N.T.S.

**FORESIGHT LAND SERVICES**  
ENGINEERING • SURVEYING • PLANNING  
1496 West Housatonic Street  
Pittsfield, MA 01201  
  
FLS Project #E2988

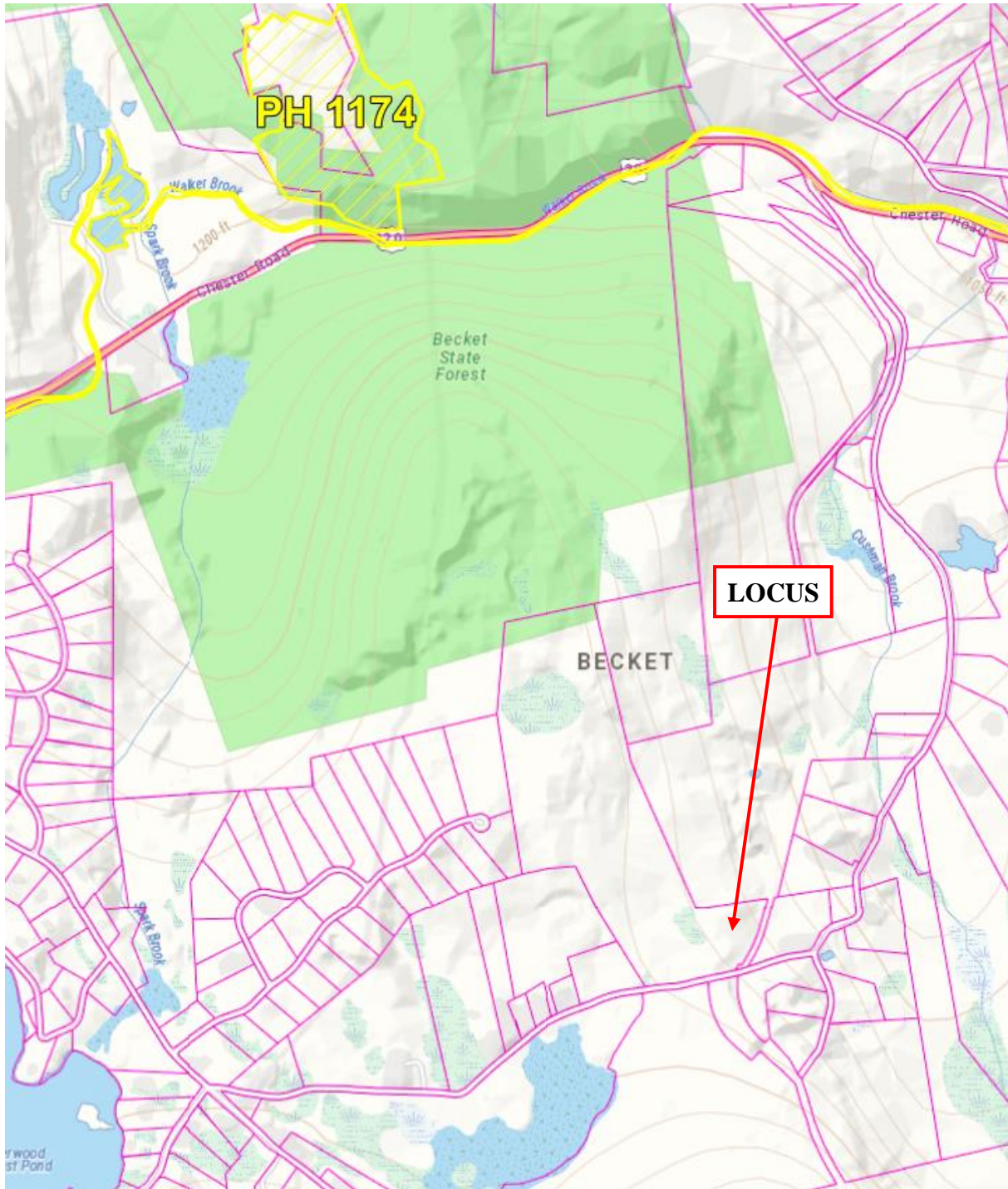
**Exhibit A-2**  
**USDA Web Soil Survey**

0 Quarry Road  
Becket, MA



PRIORITY HABITATS AND ESTIMATED HABITATS Effective August 1, 2021  
Priority Habitats for use with the MA Endangered Species Act Regulations (321 CMR 10)  
Estimated Habitats for use with the MA Wetland Protection Act Regulations (310 CMR 10)  
Produced by Natural Heritage & Endangered Species Program

***MA Division of Fisheries and Wildlife***

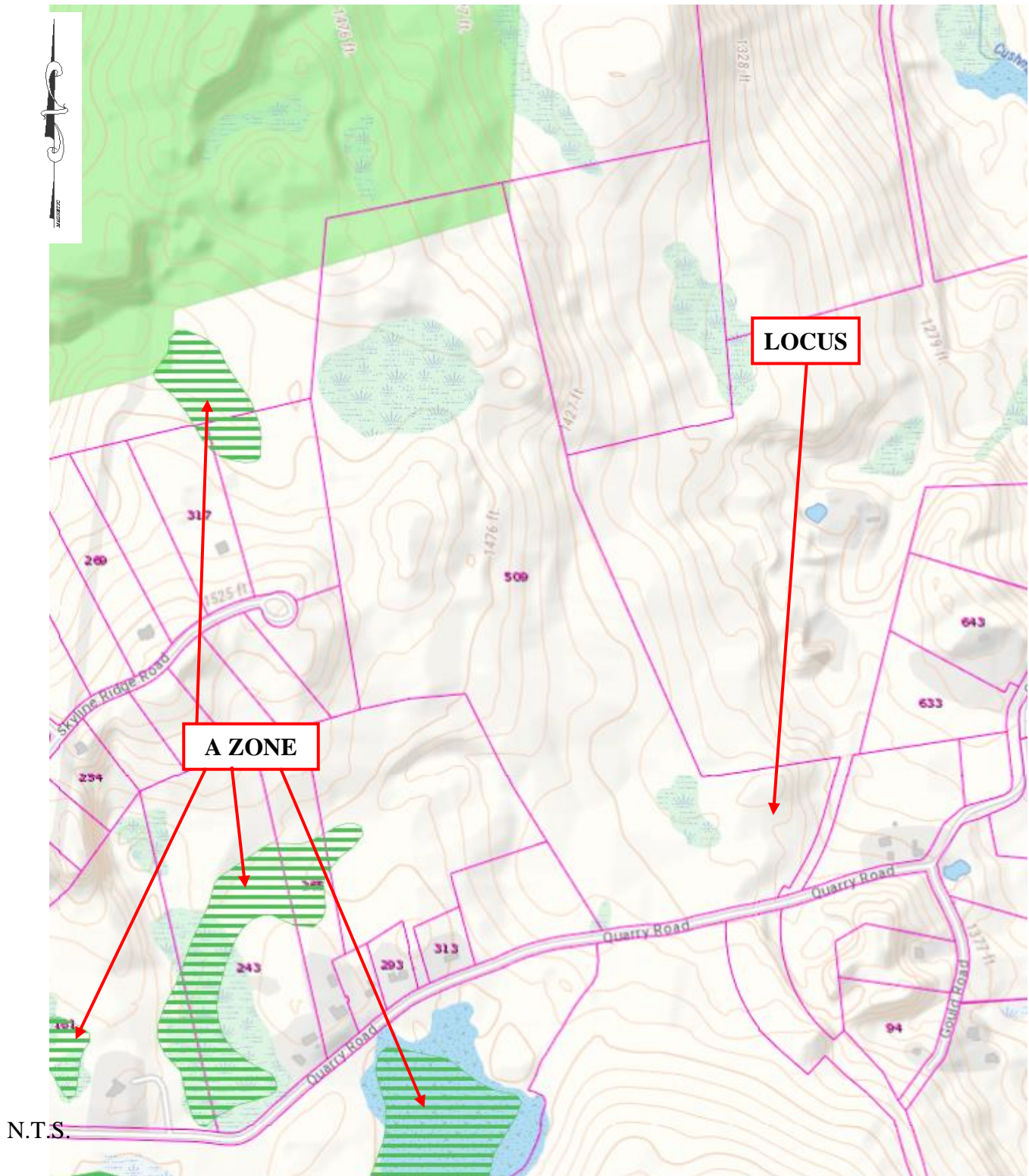


**FORESIGHT LAND SERVICES**  
ENGINEERING • SURVEYING • PLANNING  
1496 West Housatonic Street  
Pittsfield, MA 01201  
  
FLS Project #E2988

**Exhibit A-3**  
**Priority Habitat Map**  
**USGS Becket QUAD, 1987 ed.**  
Source MASSGIS  
  
0 Quarry Road  
Becket, MA



# NATIONAL FLOOD INSURANCE PROGRAM

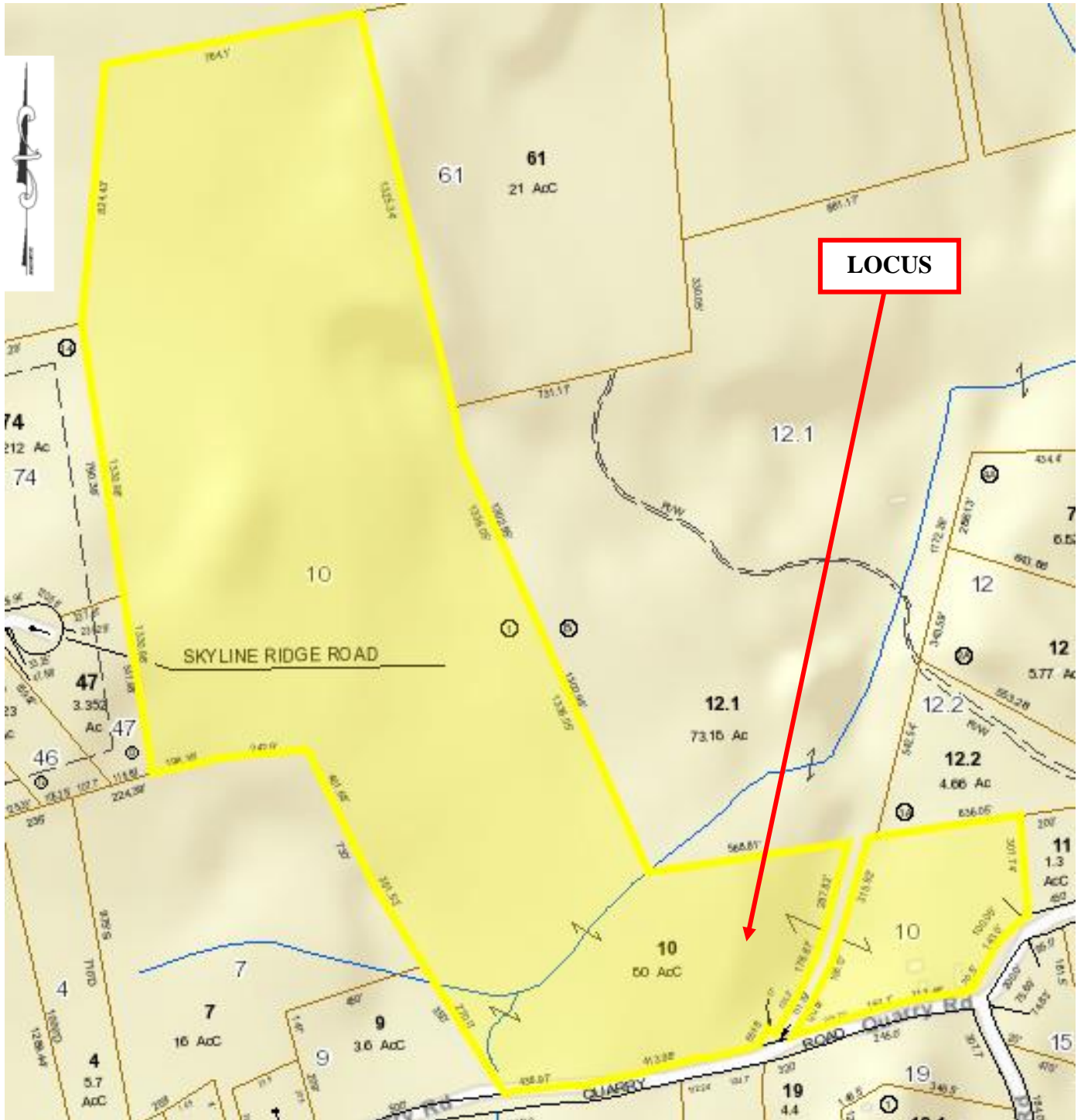


**FORESIGHT LAND SERVICES**  
ENGINEERING • SURVEYING • PLANNING  
1496 West Housatonic Street  
Pittsfield, MA 01201  
  
FLS Project #E2988

**Exhibit A-4**  
**USGS Becket QUAD, 1987 ed.**  
Source MASSGIS

0 Quarry Road  
Becket, MA

## ASSESSOR'S MAP



N.T.S.

**FORESIGHT LAND SERVICES, INC.**  
ENGINEERING • SURVEYING • PLANNING  
1496 West Housatonic Street  
Pittsfield, MA 01201  
  
FLS Project #E2988

**Exhibit A-5**  
**Source: Town of Becket AxisGIS**  
**Map 416, Lot 10**

0 Quarry Road  
Becket, MA



Steven A. Mack, P.E.\*  
Marc S. Volk  
Marc A. LeVasseur

**Exhibit B**  
**Project Narrative**

Proposed Marijuana Cultivation Facility Construction and Related Site Work  
509 Quarry Road  
Map 416 Lot 10  
Becket, MA 01223

**PROJECT SCOPE**

This narrative is being submitted as part of a Notice of Intent filed on behalf of the applicant, Tetrahydra Agtek, LLC C/O Michael Goodenough, for the proposed construction of a marijuana cultivation facility and related site work at 509 Quarry Road (Becket Assessor's Map 416 Lot 10), Becket, MA. The site of proposed work is located across Quarry Road from the existing Becket Quarry parking area. A new  $\pm 5.7$  acre Form A Lot has been created for the proposed cultivation facility. The site is currently undeveloped land, previously utilized for a commercial logging operation within the past 5 years.

The scope of the proposed work includes the construction of a cultivation facility building, construction of a pervious pavement driveway and parking areas, installation of utilities, installation of stormwater management features, installation of security fencing and screening vegetation, and construction of a replacement stream crossing structure that complies with the Massachusetts River and Stream Crossing Standards (see Proposed Site Plan set for further details.)

The Wetland Resource Areas on site consist of Bank (310 CMR 10.54), Bordering Vegetated Wetland (310 CMR 10.55), and Land Under Water Body (310 CMR 10.56) associated with intermittent streams. There is an existing unnamed intermittent stream that flows northeast, adjacent to the western property line and northwestern property corner. There is an existing Bordering Vegetated Wetland (BVW) located in the western half of the subject parcel. The BVW hydrology flows north downgradient through the BVW and splits to flow north toward the above mentioned intermittent stream, as well as east through the center of the site to form a separate intermittent stream channel adjacent to the eastern property line (see WETLAND RESOURCE AREAS section below for a summary of wetland delineation information).

The site work is proposed to be done using methods to protect the interests of the Wetlands Protection Act and other required zoning regulations. Sedimentation and erosion control measures are proposed between the work area and the wetland resource area, and shall be maintained according to the erosion control standards attached until the site has stabilized with permanent vegetation.

April 4, 2022  
Page 2

### **EXISTING CONDITIONS**

The site of proposed work is located at 509 Quarry Road (Becket Assessor's Map 416 Lot 10), Becket, MA. The proposed work will be located on a new  $\pm 5.7$  acre lot created in 2021. The area is currently undeveloped and was utilized for commercial logging operations within the past 5 years. There are several existing small sheds located on site. Portions of the site remain forested; however the majority of upland area on site has been cleared and now consists of wood debris and shrub vegetation. The Bordering Vegetated Wetlands on site appeared to have been delineated previously for the commercial logging operation and those areas appear to have been generally avoided by the logging operation, with the exception of two apparent logging road crossing locations. Existing tree lines, created by the tree clearing in uplands, are easily observable along the edges of the Bordering Vegetated Wetland. The existing grades within the subject parcel generally slope upward toward several high points located in the upland areas on site.

There are several existing logging roads that lead through the site and cross Wetland Resource Areas. Both existing logging roads begin at the southeastern corner of the subject parcel and continue north to a point where they diverge. From that point, one of the existing logging roads leads west, crosses a BVW and continues west, away from the new lot. The other existing logging road leads north, crosses an intermittent stream that is conveyed through a small 4" diameter PVC culvert, and continues north toward the northeastern property corner of the new lot.

Currently the existing logging road that crosses the intermittent stream does so using a 4" PVC pipe to convey the majority of the stream flow east across the logging road and a wooden palate/brush driving surface for vehicles to cross over the PVC pipe. The surface of the logging road appears to make a 12"-18" cut into the surrounding grade. The condition of the existing 4" PVC culvert pipe is unclear; however a significant amount of water flowing from the upstream BVW has been observed bypassing the 4" PVC pipe and flowing directly into the wheel ruts and depression created by the cut logging road before making its way to the downstream channel. The water bypassing the stream crossing pipe has created a saturated condition within the logging road. This stream crossing does not comply with the Massachusetts River and Stream Crossing Standards and is heavily disturbed by past logging activities making the boundaries of Wetland Resource Areas through the logging road somewhat unclear (see WETLAND RESOURCE AREAS section below for further information regarding the boundaries of Wetland Resource Areas).

Soils in the area of proposed work are shown on the attached USDA Web Soil Survey Map as Fredon fine sandy loam, 0 to 3 percent slopes and Merrimac fine sandy loam, 15 to 25 percent slopes.

According to FEMA flood insurance rate map data taken from MassGIS, no portion of the subject parcel is located within a FEMA mapped flood zone.

According to the current Natural Heritage & Endangered Species Program (NHESP) mapping taken from MassGIS, no portion of the subject parcel is located within any NHESP estimated or priority habitat designated areas.



April 4, 2022  
Page 3

According to MassGIS, no portion of the property is located within an Area of Critical Environmental Concern (ACEC). Erosion control devices and practices shall be implemented to protect resource areas.

#### **WETLAND RESOURCE AREAS**

The Wetland Resource Areas present in the area of proposed work are Bank (310 CMR 10.54), Bordering Vegetated Wetland (BVW) (310 CMR 10.55), and Land Under Water Bodies (310 CMR 10.56) associated with intermittent streams. There are two separate unnamed intermittent streams located in the area of proposed work. The boundaries of the Wetland Resource Areas relevant to the proposed work have been delineated on site with three wetland delineation flagging series; “A” series, “B” series, & “C” series.

“A” series wetland delineation flagging delineates the eastern/southeastern Bank (310 CMR 10.54) of an unnamed intermittent stream that flows from a culvert under Quarry Road (located west of subject parcel), northeastward adjacent to the western property line of the new proposed lot. “A” series flagging begins with flag “A1” at the culvert conveying the intermittent stream under Quarry Road. “A” series flagging continues northeast along the eastern Bank of the stream to its termination point, flag “A51 END”, located north of the northern property line of the subject parcel.

“B” series wetland delineation flagging delineates the eastern and northern boundaries of Bank (310 CMR 10.54) and associated Bordering Vegetated Wetland (310 CMR 10.55) located centrally within the parcel. “B” series flagging begins with flag “B1” located at the eastern edge of the southern Bank of the “A” series intermittent stream, between flags “A36” and “A37”. “B” series flagging continues south along the eastern boundary of the Bordering Vegetated Wetland to flag “B20”, where the flagging sharply changes direction to lead eastward along the northern boundary of the BVW, as it drains eastward toward the second intermittent stream. At flag “B32” the BVW begins to narrow into an intermittent stream channel that flows into the above discussed existing stream crossing, consisting of a 4” PVC pipe under an existing logging road. The area of stream channel/BVW between flags “B32 and “B33” is significantly disturbed by the existing logging road cut into existing grade. Beginning with flag “B33”, at the eastern edge of the logging road, there is a well defined, stony intermittent stream channel that flows east, away from the area of proposed work. “B series flagging terminates with flag “B40 END” at the eastern property line of the Lot 10. The stream continues to flow eastward until it meets up with another intermittent stream running north along an existing utility easement.

“C” series wetland delineation flagging delineates the southern, eastern and western boundaries of Bank (310 CMR 10.54) and Bordering Vegetated Wetland (310 CMR 10.55). “C” series flagging works in conjunction with the above discussed “B” series flagging to define the boundaries of the same intermittent stream and BVW. “C” series flagging begins with flag “C1” directly across stream from flag “B40” and continues west, upstream along the southern boundary of the intermittent stream. “C” series flagging crosses the existing woods road with flags “C8” to “C9”, directly across stream from flags “B33” and “B32”. Beginning at flag “C10”, flagging continues west along the southern boundary of BVW (across from “B” series), to flag “C21” where flagging turns south. From flag “C21” to flag “C35” flagging continues south along the eastern boundary of the BVW to flag “C35” at the edge of Quarry Road. Flags “C38 and “C39” are located at an

April 4, 2022  
Page 4

existing drainage structure under Quarry Road. Beginning with flag “C44” flagging continues north along the western boundary of the BVW to its termination point, flag “C71 END” located at the southern bank of the “A” series stream, adjacent to flags “A36” and “B1”. An existing logging road/path crosses the “C” series BVW roughly at flags “C24” and “C56”.

The proposed work has been designed to minimize impacts to the wetland resource areas on site. The site work is proposed to be done using methods to protect the interests of the Wetlands Protection Act and other required zoning regulations. Sedimentation and erosion control measures are proposed between the work area and the wetland resource area, and shall be maintained according to the erosion control standards attached until the site has stabilized with permanent vegetation.

### **PROPOSED WORK**

The purpose of the proposed work is to develop the site for use as a marijuana cultivation facility with indoor growing and processing on site. The site of proposed work was previously utilized for logging operations, which left large cleared areas of upland on site (see Existing Conditions section for further details on the site of proposed work). The scope of the proposed work includes the construction of a cultivation facility building, construction of a pervious pavement driveway and parking area, installation of utilities, installation of stormwater management features, installation of security fencing and screening vegetation, and construction of a replacement stream crossing in accordance with Massachusetts River and Stream Crossing Standards. Portions of the proposed work are located within the 100’ buffer zone of Wetland Resource Areas and minor alteration to Wetland Resource Areas are necessary for the replacement of the existing non-compliant stream crossing on site.

Prior to the commencement of work, construction phase erosion controls will be installed according to the attached Proposed Site Plan Set and the EPA NPDES Stormwater Pollution Prevention Plan (“SWPPP”) to be submitted by the contractor prior to the start of any construction work. Construction activities will be carried out in accordance with a detailed SWPPP in compliance with US EPA Stormwater Construction General Permit requirements. The SWPPP and associated information will be available once a contractor is chosen and the SWPPP is finalized. Erosion controls will be maintained in effective conditions throughout the duration of construction in accordance with the SWPPP and until approved for removal by the Becket Conservation Commission (see Proposed Site Plan Set for further erosion control information).

Construction phase erosion controls will also include the construction of a stone tracking pad construction entrance to the site from the north side of Quarry Road. The proposed entrance to the site will be located where the existing logging road connects to Quarry Road at the southeastern property corner of the subject parcel.

A proposed 20’ wide pervious pavement driveway and attached parking areas will be constructed, providing access to the proposed cultivation facility building. Portions of the proposed driveway will be located within the 100’ buffer zone of a Bordering Vegetated Wetland and intermittent stream. The proposed driveway will begin at the subject parcel’s southeastern property corner, leading north. 19 parking spaces are proposed on the eastern side of the proposed cultivation facility building. A concrete block retaining wall will be constructed on the eastern side of the

April 4, 2022  
Page 5

above described parking spaces. The proposed 20' wide driveway continues north over the proposed replacement stream crossing (see Exhibit B-1 for stream crossing details) to a grass on gravel parking area, consisting of 18 parking spaces. This parking area is proposed to be located in upland area, outside of the 100' Buffer Zones on site.

The proposed replacement stream crossing structure will be constructed over the "B" and "C" series intermittent stream, to provide vehicular access to the proposed upland grass on gravel parking area. The proposed structure will consist of a partially embedded 10' 8" wide, 6' 11" tall, 26' 8" long steel multi-plate pipe arch (6"x 2" corrugation) stream crossing structure (Contech engineered solutions, or approved equal). Bankfull width measurements of the intermittent stream banks were taken at six separate locations, in areas of the stream that appear to be uninfluenced by the existing stream crossing structure. The average bankfull width of the observable stream channel is approximately 4.1 linear feet. The required Clear Span width is therefore 4.92' (4.1' x 1.2 = 4.92'). As designed, the proposed stream crossing structure has a clear span width of approximately 10.2' and an openness ratio of 0.97, meeting the general standards of the Massachusetts River and Stream Crossing Standards.

The existing stream crossing structure consists of a 4" diameter PVC pipe and a wooden pallet/brush driving surface, that does not comply with the Massachusetts River and Stream Crossing Standards. The existing stream crossing does not function properly and the majority of water bypasses the 4" pipe, flowing directly over the existing woods road, causing erosion. The proposed stream crossing structure will improve upon the condition of the heavily disturbed Bank (310 CMR 10.54) and Land Under Waterbody (310 CMR 10.56) Wetland Resource Areas, by restoring approximately 55 linear feet of Bank and approximately 125 Square feet of Land Under Water Body to a natural stream substrate of stones roughly equivalent to those observed in the undisturbed portions of the stream channel. This will provide an appropriate stream bed form with a continuous thalweg so that water depths and velocities are compatible to those found in the natural channel at a variety of flows. Banks will be restored on each side of the stream within the structure to match the horizontal profile of the existing stream and banks.

The proposed cultivation facility will consist of a 31,310 square foot footprint building, located in the southern portion of the subject parcel. Approximately 10,825 square feet ( $\pm 35\%$ ) of the building will be located within the 100' buffer zone. At its closest point, the proposed building will be located approximately 32 linear feet from the "C" series Bordering Vegetated Wetland. Stormwater management and collection systems are proposed to collect and reuse the stormwater that falls on the roof of the proposed building and surrounding area. Chain link security fencing is proposed to be installed around the perimeter of the site, partially within the 100' buffer zone.

Several vegetated stormwater management areas are proposed to be constructed on site, partially within the 100' buffer zone of Wetland Resource Areas. Underground infiltration chambers and rainwater storage are proposed within the 100' buffer zone. Site grading and clearing within the 100' buffer zone is required for portions of the stormwater management area construction.

A water supply well is proposed on site, outside the 100' buffer zone. Other utility and drainage lines are proposed to be constructed within the 100' buffer zone, with a drainage line and a sewer force main line following the proposed driveway and going underneath the proposed stream

April 4, 2022  
Page 6

crossing structure. A new subsurface sewage disposal system is proposed to be constructed partially within the 100' buffer zone, adjacent to the proposed grass on gravel parking area. At its closest point the subsurface sewage disposal system will be approximately 67 linear feet from a Bordering Vegetated Wetland.

Thirteen native trees are proposed to be planted within the 100' buffer zone of the "C" series BVW. The proposed trees have been located along the edge of Quarry Road within the buffer zone to provide additional screening vegetation from the roadway as well as additional native habitat within a buffer zone.

All areas that have been disturbed by the proposed work or construction access will be loam, seeded, and straw mulched. Erosion controls will remain in place as shown on the attached site plan until the site of proposed work has been fully stabilized with vegetation or the Becket Conservation Commission has approved their removal. The erosion controls and proposed security fencing shown on the attached site plan will generally serve as the limit of proposed work.

#### GENERAL PERFORMANCE STANDARDS REVIEW PER 310 CMR 10

##### 310 CMR 10.54 Bank General Performance Standards

The Banks (310 CMR 10.54) of the intermittent streams on site generally follow the MAHW of the stony stream embankments. In the proposed stream crossing location, the Banks of the intermittent stream have been heavily disturbed by the existing logging road cut into grade and its associated existing 4" PVC stream crossing pipe. This disturbance and the non-functioning existing stream crossing have created poorly defined stream Banks and cause continued erosion through the existing logging road.

As designed, the proposed stream crossing work will alter and restore approximately 55 linear feet of Bank. Stone stream Banks, with a continuous thalweg, will be constructed within the proposed embedded stream crossing structure to match the horizontal profile and cobble size of the existing stream and banks. As designed, the proposed work will create a significant improvement upon the below listed interests of Bank wetland resource area.

##### *1. the physical stability of the Bank;*

The existing Banks of the stream, in the replacement crossing location, are heavily disturbed by the existing logging road and are no longer well defined by a channel. Instead water bypasses the existing 4" pipe and settles into wheel ruts and erodes a small channel diagonally across the existing logging road toward the undisturbed stream channel.

The proposed work will result in a significant improvement of the physical stability of the Banks proposed to be altered and restored by installing a natural stream substrate of stones, roughly equivalent to those observed in the undisturbed portions of the stream channel, with a continuous thalweg and Banks matching the horizontal profile of the existing stream and Banks.



April 4, 2022  
Page 7

*2. the water carrying capacity of the existing channel within the Bank;*

The proposed work will improve the water carrying capacity of the stream Banks, by restoring approximately 55 linear feet of Bank from a heavily disturbed and eroding condition to a natural stone substrate roughly equivalent to those observed in the undisturbed portions of the stream channel.

*3. ground water and surface water quality;*

The proposed work will result in an improvement to ground and surface water quality, by preventing further erosion of the Banks within the existing stream crossing location.

*4. the capacity of the Bank to provide breeding habitat, escape cover and food for fisheries;*

The proposed work will result in an overall improvement in the capacity of the Banks ability to provide breeding habitat, escape cover and food for fisheries, by restoring approximately 55 linear feet of bank from an existing logging road to a more stable natural stream channel.

*5. the capacity of the Bank to provide important wildlife habitat functions. A project or projects on a single lot, for which Notice(s) of Intent is filed on or after November 1, 1987, that (cumulatively) alter(s) up to 10% or 50 feet (whichever is less) of the length of the bank found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. In the case of a bank of a river or an intermittent stream, the impact shall be measured on each side of the stream or river. Additional alterations beyond the above threshold may be permitted if they will have no adverse effects on wildlife habitat, as determined by procedures contained in 310 CMR 10.60;*

The proposed work will result in an overall improvement in the capacity of the Banks ability to provide breeding habitat, escape cover and food for fisheries, by restoring approximately 55 linear feet of bank from an existing logging road to a more stable natural stream channel. Per 310 CMR 10.60 a Wildlife Habitat Evaluation has been completed and submitted with this Notice of Intent.

**310 CMR 10.56 Land Under Water Bodies and Waterways General Performance Standards**

The Land Under Water Body (LUWB) (310 CMR 10.56) of the intermittent stream to be altered is defined by the Mean Annual Low Water line which runs along the toe of the stream embankments. As designed, the proposed work will significantly improve upon the existing condition of LUWB in the area to be altered by restoring approximately 125 square feet of LUWB that is currently heavily disturbed the existing logging road. As designed, the proposed work will create a significant improvement upon the below listed interests of LUWB wetland resource area.

*1. The water carrying capacity within the defined channel, which is provided by said land in conjunction with the banks;*

The existing LUWB of the stream, in the replacement crossing location, is heavily disturbed by the existing logging road and consists mainly of wheel ruts and brush/wooden pallets placed down for a logging road driving surface.

The proposed work will result in a significant improvement of the water carrying capacity

April 4, 2022  
Page 8

of the LUWB proposed to be altered and restored by installing a natural stream substrate of stones, roughly equivalent to those observed in the undisturbed portions of the stream channel, with a continuous thalweg and Banks matching the horizontal profile of the existing stream and Banks.

*2. Ground and surface water quality;*

The proposed work will result in an improvement to ground and surface water quality, by preventing further erosion of the LUWB within the existing stream crossing location.

*3. The capacity of said land to provide breeding habitat, escape cover and food for fisheries;*

The proposed work will result in no change to the capacity of LUWB to provide breeding habitat, escape cover and food for fisheries. As designed, no LUWB will be altered as a part of the proposed work.

*4. The capacity of said land to provide important wildlife habitat functions. A project or projects on a single lot, for which Notice(s) of intent is filed on or after November 1, 1987, that (cumulatively) alter(s) up to 10% or 5,000 square feet (whichever is less) of land in this resource area found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. Additional alterations beyond the above threshold may be permitted if they will have no adverse effects on wildlife habitat, as determined by procedures established under 310 CMR 10.60.*

The proposed work will result in an overall improvement in the capacity of the LUWB to be altered ability to provide breeding habitat, escape cover and food for fisheries, by restoring approximately 125 square feet of LUWB from an existing logging road to a more stable natural stream bottom substrate that is roughly equivalent to those observed in the undisturbed portions of the stream channel.

*5. Work on a stream crossing shall be presumed to meet the performance standard set forth in 310 CMR 10.56(4)(a) provided the work is performed in compliance with the Massachusetts Stream Crossing Standards by consisting of a span or embedded culvert in which, at a minimum, the bottom of a span structure or the upper surface of an embedded culvert is above the elevation of the top of the bank, and the structure spans the channel width by a minimum of 1.2 times the bankfull width. This presumption is rebuttable and may be overcome by the submittal of credible evidence from a competent source. Notwithstanding the requirements of 310 CMR 10.56(4)(a)4., the impact on Land under Water Bodies and Waterways caused by the installation of a stream crossing is exempt from the requirement to perform a habitat evaluation in accordance with the procedures established under 310 CMR 10.60.*

The proposed structure will meet and exceed the Massachusetts River and Stream Crossing Standards, with a proposed openness ratio of 0.97 and a Clear Span width of 10.2', which exceeds the required clear span width of  $\pm 4.92'$  (average bankfull width  $4.1' \times 1.2 = 4.92'$ ). See exhibit B-1 Massachusetts River and Stream Crossing Standards Compliance Statement for more details. Per 310 CMR 10.60 a Wildlife Habitat Evaluation has been completed and submitted with this Notice of Intent.

April 4, 2022

Page 9

**MITIGATING MEASURES**

Erosion controls shall be installed as shown on the plans and as evidently needed to control run off from the site from reaching the resource areas. Erosion controls shall remain in place and shall be maintained until the construction site has vegetated and stabilized. These measures represent the minimum needed to control sediment on the site and to provide a limit of work barrier. The Contractor is responsible for the implementation of additional measures, if needed, to prevent negative impact to resource areas. All disturbed areas shall be restored with loam, seed and straw mulch. All work shall be in conformance with the “Construction-Phase Measures for the Control of Sediments and the Protection of Wetlands” included in this Notice of Intent.



Steven A. Mack, P.E.\*  
Marc S. Volk  
Marc A. LeVasseur

**Exhibit B-1**

**Massachusetts River and Stream Crossing Standards  
Compliance Statement  
0 Quarry Road, Becket, MA 01223**

This statement of compliance with the Massachusetts River and Stream Crossing Standards is being submitted as part of a Notice of Intent filed on behalf of the applicant Tetrahydra Agtek, LLC C/O Michael Goodenough. The applicant proposes the construction of a marijuana cultivation facility, including the installation of a proposed 10' 8" wide, 6' 11" tall, 26' 8" long steel multi-plate pipe arch (6"x 2" corrugation) partially embedded stream crossing structure (Contech engineered solutions, or approved equal).

The following summarizes the proposed stream crossing structure and its compliance with the Massachusetts River and Stream Crossing Standards. As shown below and provided in the Notice of Intent, the proposed stream crossing structure meets the required Massachusetts River and Stream Crossing Standards General Standard Openness Ratio of 0.82 feet and the required Clear Span width of 1.2 times the average bankfull width.

Bankfull width measurements of the intermittent stream banks were taken at six separate locations, in areas of the stream that appear to be uninfluenced by the existing stream crossing structure. The average bankfull width of the observable stream channel is approximately 4.1 linear feet. The required Clear Span width is therefore 4.92' (4.1' x 1.2 = 4.92'). The openness ratio of the proposed structure is approximately 0.97.

The project has been designed to meet other General Standards including a natural bottom substrate within the structure, an appropriate bed form and stream bed so that water depths and velocities are compatible to those found in the natural channel at a variety of flows, a continuous thalweg has been designed in the proposed structure, and banks on each side of the stream to match the horizontal profile of the existing stream and banks.

See the Exhibit B –Project Narrative in the Notice of Intent for additional information.

<b><u>Massachusetts River &amp; Stream Crossing Standards</u></b>	<b>Openness Ratio (Required: 0.82)</b>	<b>Clear Span (Required: 4.92')</b>
<b>Existing 4" Ø PVC Culvert Pipe</b>	0.003	4"
<b>Proposed Steel Multi-Plate Pipe Arch partially embedded stream crossing structure. 10' 8" wide, 6' 11" tall, 26' 8" long (Contech engineered solutions, or approved equal)</b>	±0.97	±10.2'

**EXHIBIT C**  
**GENERAL CONDITIONS:**  
*Construction-Phase Measures for*  
*Control of Sediment and Erosion and Protection of Wetlands*

---

1. Do not disturb existing vegetated areas far in advance of construction. Limit disturbance only to the extent and duration required for imminent construction activities. Retain and protect natural vegetation and vegetative filter strips wherever possible.
2. Temporary vegetation or a heavy mat of wood chips shall be established on all earth stockpiles or stripped areas which will be bare for more than two months and less than 12 months. Such vegetation shall consist of a commercial conservation seed mixture with a high percentage of annual rye grass. Permanent herbaceous cover shall be established on areas which would be bare more than 12 months.
3. A heavy mat of straw mulch, wood chips, erosion control netting, mesh or blanket matting shall be used on disturbed areas if vegetation cannot be established due to season or on-going construction process, or if otherwise required.
4. Silt fence or carefully positioned staked straw bales shall be installed along the downhill edge of disturbed earthwork areas where required to control erosion and sedimentation.
5. Water courses, including intermittent drainage swales, shall be protected from siltation by silt fence barriers or carefully positioned staked straw bale check dams.
6. Sediment traps shall be constructed downhill of disturbed areas and upstream of watercourses and/or wetlands. Trapped sediments shall be removed from the basins during the construction period before they become 50% full to prevent sediment from being transported downhill. Dispose of sediments in on-site upland disposal areas, properly graded, seeded and mulched.
7. Permanent drainage control structures shall be installed as early as possible in the construction process. Drains shall be provided with drain inlet sediment filters and/or traps.
8. Do not fuel construction equipment or store fuel or other potential contaminants within 100 feet of water courses or wetlands.
9. Precast concrete shall be washed down at the manufacturer's plant. Cast-in-place concrete within 100 feet of watercourses/wetlands shall be placed so as to minimize runoff of stormwater from fresh concrete, through use of sumps, diversions, etc. Concrete trucks and equipment contaminated with fresh concrete shall not be washed down within 100 feet of wetlands.
10. An adequate stockpile of erosion control materials shall be on site at all times for emergency or routine replacement and shall include materials to repair silt fences, straw bales, stone-riprap filter dikes or any other devices planned for use during construction.
11. The areas of construction should remain in a stable condition at the close of each construction day. Erosion controls shall be inspected at this time, and maintained or reinforced if necessary.
12. Strictly adhere to all general and special conditions of any Wetlands Protection Act Permits, including plans, details, construction sequencing outline, and other applicable requirements.



2021 00979512

Bk: 6944 Pg: 62 Doc: DEED

Page: 1 of 5 06/24/2021 11:01 AM

**KNOW ALL BY THESE PRESENTS**

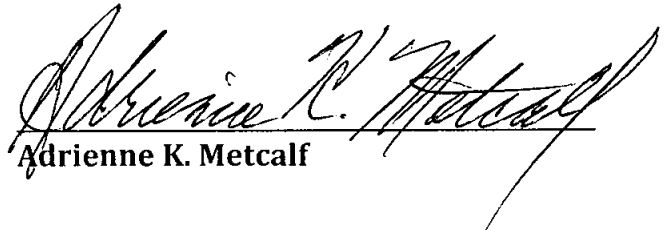
That we, **ADRIENNE K. METCALF, JEROME H. SCHWARTZBACH**, of Becket, Berkshire County, Massachusetts, and **ANNE H. WESTMORELAND** of Schuyler, Virginia, for no consideration paid as this constitutes a transfer and not a sale , grant to **HAPPY MEDIUM LLC** a Massachusetts Limited Liability Company, with a principal place of business of 509 Quarry Road, Becket, Massachusetts 01223, to hold with **QUITCLAIM COVENANTS**, the land with any and all buildings thereon located in the Town of Becket, Massachusetts bounded and described as follows:

Quarry Road, Becket, MA 01223

Being Parcel "A" on Plan entitled "PLAN OF LAND IN BECKET (BERKSHIRE CO), MA PREPARED FOR ADRIENNE METCALF, Hilltown Land Surveys Cummington, MA, dated June 4, 2021; Scale 1" = 50'", which Plan is recorded with the Berkshire Middle District Registry of Deeds in Plat S-21.

Being a portion of the premises conveyed to Adrienne K. Metcalf, Jerome H. Schwartzbach, Anne H. Westmoreland and Nancy H. Metcalf (deceased 11/22/2011, see Death Certificate recorded in the Berkshire Middle District Registry of Deeds in Book 5917, Page 292) by deed of Nancy H. Metcalf dated October 24, 2002 and recorded in the Berkshire Middle District Registry of Deeds in Book 2344, Page 229.

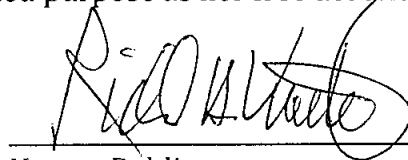
WITNESS MY HAND AND SEAL this 18<sup>th</sup> day of June 2021.

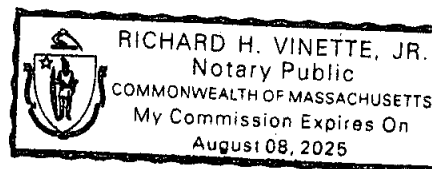
  
Adrienne K. Metcalf

**COMMONWEALTH OF MASSACHUSETTS**

**Berkshire County, ss:**

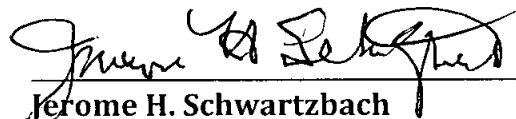
On this 18<sup>th</sup> day of June 2021, before me, the undersigned notary public, personally appeared **Adrienne K. Metcalf**, proved to me through satisfactory evidence of identification, which was personal knowledge, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that she signed it voluntarily for its stated purpose as her free act and deed.

  
\_\_\_\_\_  
Notary Public:  
My Commission Expires:





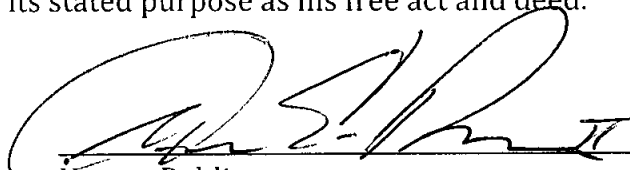
WITNESS MY HAND AND SEAL this 21<sup>st</sup> day of June 2021.

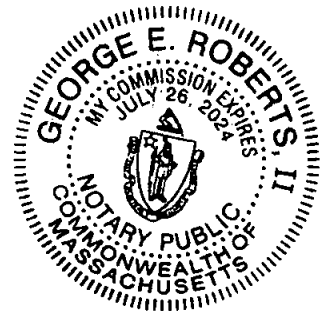
  
Jerome H. Schwartzbach

**COMMONWEALTH OF MASSACHUSETTS**

**Berkshire County, ss:**

On this 21<sup>st</sup> day of June 2021, before me, the undersigned notary public, personally appeared **Jerome H. Schwartzbach**, proved to me through satisfactory evidence of identification, which was UN# 545201625, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose as his free act and deed.

  
Notary Public:  
My Commission Expires



WITNESS MY HAND AND SEAL this 22 day of June 2021.

Anne H. Westmoreland  
Anne H. Westmoreland

STATE OF VIRGINIA

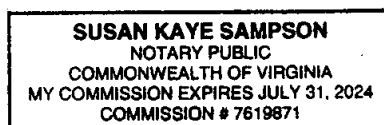
County of: Albemarle

On this 22 day of June 2021, before me, the undersigned notary public, personally appeared **Anne H. Westmoreland**, proved to me through satisfactory evidence of identification, which was VA Drivers License, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that she signed it voluntarily for its stated purpose as her free act and deed.

Susan Sampson

Notary Public:

My Commission Expires July 31, 2024



Hannon Lerner, P.C.  
184 Main Street  
Lee, MA 01238  
(413) 243-3311

Exhibit E

**EXISTING CONDITIONS SITE PHOTOGRAPHS**

Proposed Marijuana Cultivation Facility Construction and Related Site Work  
0 Quarry Road, Becket, MA

The following photographs shall serve as documentation of existing conditions at the replacement stream crossing location on site. For further information regarding the existing site conditions see Exhibit B Project Narrative.



**Photo 1:** Displays the location where the existing logging road crosses the “B” & “C” series stream/BVW, facing north. (February 24, 2022)





**Photo 2:** Displays the downstream channel of the “B” & “C” series intermittent stream at the eastern edge of the existing logging road, facing east. (February 24, 2022)





**Photo 3:** Displays the existing logging road stream crossing, consisting of a 4" PVC pipe and wooden pallets, facing north. (February 24, 2022)





**Photo 4:** Displays the existing logging road stream crossing, consisting of a 4" PVC pipe and wooden pallets, and the upstream BVW, facing north. (February 24, 2022)





**Photo 5:** Displays the existing logging road stream crossing, consisting of a 4" PVC pipe and wooden pallets, facing north. (February 24, 2022)





**Photo 6:** Displays the existing stream crossing and downstream channel in the existing logging road, facing south. (February 24, 2022)





**Photo 7:** Displays the upstream Bordering Vegetated Wetland as it flows into the existing logging road, facing northwest. (February 24, 2022)





**Photo 8:** Displays existing logging road at the stream/BVW crossing, facing south.  
(February 24, 2022)



# Wildlife Habitat Protection Guidance

## Appendix A: Simplified Wildlife Habitat Evaluation

### Project Information

**Important:** When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



0 Quarry Road, Becket, MA

Project Location (from NOI)

Jackson T. Alberti, Foresight Land Services, Inc.

Name of Person Completing Form

3/17/2022

Date

### Important Habitat Features

Direct alterations to the following important habitat features in resource areas may be permitted only if they will have no adverse effect (refer to Section V).

- ☐ Habitat for state-listed animal species (receipt of a positive opinion or permit from MNHESP shall be presumed to be correct. Do not refer to Section V).
- ☒ Sphagnum hummocks and pools suitable to serve as nesting habitat for four-toed salamanders
- ☒ Trees with large cavities ( $\geq 18$ " tree diameter at cavity entrance)
- ☐ Existing beaver, mink or otter dens
- ☐ Areas within 100 feet of existing beaver, mink or otter dens (if significant disturbance)
- ☐ Existing nest trees for birds that traditionally reuse nests (bald eagle, osprey, great blue heron)
- ☐ Land containing freshwater mussel beds
- ☐ Wetlands and waterbodies known to contain open water in winter with the capacity to serve as waterfowl winter habitat
- ☐ Turtle nesting areas
- ☐ Vertical sandy banks (bank swallows, rough-winged swallows or kingfishers)

The following habitat characteristics when not commonly encountered in the surrounding area:

- ☐ Stream bed riffle zones (e.g. in eastern MA)
- ☐ Springs
- ☐ Gravel stream bottoms (trout and salmon nesting substrate)
- ☐ Plunge pools (deep holes) in rivers or streams
- ☒ Medium to large, flat rock substrates in streams



# Wildlife Habitat Protection Guidance

## Appendix A: Simplified Wildlife Habitat Evaluation

---

### Activities

When any one of the following activities is proposed within resource areas, applicants should complete a Detailed Wildlife Habitat Evaluation (refer to Appendix B).

- ☐ Activities located in mapped “Habitat of Potential Regional or Statewide Importance”
- ☐ Activities affecting certified or documented vernal pool habitat, including habitat within 100’ of a certified or documented vernal pool when within a resource area
- ☐ Activities in bank, land under water, bordering land subject to flooding (presumed significant) where alterations are more than twice the size of thresholds
- ☐ Activities affecting vegetated wetlands >5000 sq. ft. occurring in resource areas other than Bordering Vegetated Wetland
- ☐ Activities affecting the sole connector between habitats >50 acres in size
- ☐ Installation of structures that prevent animal movement
- ☐ Activities for the purpose of bank stabilization using hard structure solutions that significantly affect ability of stream channel to shift and meander, or disrupt continuity in cover that would inhibit animal passage
- ☐ Dredging (greater than 5,000 sf)



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands Program

# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

### Part 1. Summary Sheet

**Important:** When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Tetrahydra Agtek LLC - Quarry Road

Project Name

0 Quarry Road, Becket, MA

Location

Approx. 55 LF Bank & Approx. 125 SF LUWB

Size of Area Being Impacted

3/17/2022

Date

Impact Areas (linear feet, square feet, or acres for each of the impact areas within the site)

Name	Waterbody/ Waterway	Wetland	Upland*	Total Area
1. Bank(10.54) Int. Stream	55 LF	NA	NA	55 LF
2. LUWB(10.56) Int. Stream	125 SF	NA	NA	125 SF
3. BVW Buffer Zone	72,000 SF	NA	NA	72,000 SF
4.				
5.				
6.				
7.				

\*Riverfront Area/BLSF

Attach Sketch map and/or photos of the Impact Areas

Narrative Description of Site (attach separate page if necessary)

\* See attached Project Narrative (Exhibit B) - NOTE: This Wildlife Habitat Evaluation was limited to the proposed replacement stream crossing, and its surrounding area, associated with the above listed Bank (310 CMR 10.55) and LUWB (310 CMR 10.56) Wetland Resource Area alterations.

### Certification

I hereby certify that this project has been designed to avoid, minimize, and mitigate adverse effects on wildlife habitat, and that it will not, following two growing seasons of project completion and thereafter, substantially reduce its capacity to provide important wildlife habitat functions.

Signature of Wildlife Specialist (per 310 CMR 10.60 (1) (b))

Jackson T. Alberti, Foresight Land Services, Inc.  
Typed or Printed Name





# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

### Part 2. Field Data Form (for each wetland or non-wetland resource area)

#### I. General Information

0 Quarry Road, Becket, MA

Project Location (from NOI page 1)

Replacement Stream Crossing for Vehicular Access - Impact Areas: 55 LF Bank, 125 SF LUWB

Impact Area (number/name)

March 17, 2022

Date(s) of Site Visit(s) and Data Collection

50 degrees Fahrenheit, overcast/raining, little to no snow cover

Weather Conditions During Site Visit (if snow cover, include depth)

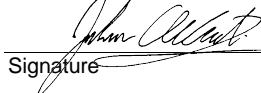
Jackson T. Alberti, Foresight Land Services, Inc.

3/17/2022

Person completing form per 310 CMR 10.60(1)(b)

Date this form was completed

The information on this data sheet is based on my observations unless otherwise indicated

  
Signature

#### II. Site Description (complete A or B under Classification - see instructions for full description)

##### A. Classification

##### 1. For Wetland Resource Areas, complete the following:

System: Palustrine

Subsystem: NA

Class: Forested

Subclass: Needle-Leaved Evergreen

Hydrology/Water Regime

☐ Permanently flooded

☐ Saturated

☒ Intermittently exposed

☐ Temporarily flooded

☐ Semi-permanently flooded

☐ Intermittently flooded

☐ Seasonally flooded

☐ Artificially flooded

##### 2. For Riverfront or Bordering Land Subject to Flooding Resource Areas, complete the following.

Use a terrestrial classification system such as one of the two listed below:

a. "Classification of the Natural Communities of Massachusetts (Draft)" by Patricia C. Swain and Jennifer B. Kearsley, MA DFW NHESP, Westborough, MA. July 2000. ([Department of Fish & Game Website](#))

b. "New England Wildlife: Habitat, Natural History, and Distribution" by Richard M. DeGraaf and Deborah D. Rudis, USDA Forest Service, Northeastern Forest Experiment Station. General Technical Report NE-108. August 1992. 491 pages.

NA

Community Name

NA

Vegetation Description

NA

Physical Description



# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

### Part 2. Field Data Form (continued)

#### B. Inventory (Plant community)

% Cover:      50%      20% saplings      0%      10%      20%  
                    Trees (> 20')      Shrubs (< 20')      Woody vines      Mosses      Herbaceous

Plant Lists (species that comprise 10% or more of the vegetative cover in each strata; "\*" designates a dominant plant species for the strata):

Strata	Plant Species	Strata	Plant Species
<u>Trees &amp; Saplings</u>	<u>*Eastern hemlock</u>	<u>Herbaceous</u>	<u>*Sensitive fern</u>
<u>Trees &amp; Saplings</u>	<u>*American beech</u>	<u>Herbaceous</u>	<u>*Switchgrass</u>
<u>Trees</u>	<u>*Sugar maple</u>	<u>Herbaceous</u>	<u>Crested fern</u>
<u>Trees</u>	<u>Red maple</u>	<u>Moss</u>	<u>Broken fork moss</u>
<u>Trees</u>	<u>White oak</u>		

#### C. Inventory (Soils)

34A Fredon fine sandy loam, 0 to 3 % slopes  
Soil Survey Unit  
Fine Sandy Loam  
Texture (upper part)  
6" - 12"  
Depth to Water Table

Poorly Drained  
Drainage Class  
> 80"  
Depth

### III. Important Habitat Features (complete for all resource areas)

If the following habitat characteristics are present, describe & quantify them on a separate sheet & attach.

Wildlife Food

Important Wetland/Aquatic Food Plants (smartweeds, pondweeds, wild rice, bulrush, wild celery)

☐ Abundant      ☐ Present      ☒ Absent

Important Upland/Wetland Food Plants (hard mast and fruit/berry producers)

☐ Abundant      ☒ Present      ☐ Absent

Shrub thickets or streambeds with abundant earthworms (American woodcock)

☐ Present      ☒ Absent

Shrub and/or herbaceous vegetation suitable for veery nesting

☒ Present      ☐ Absent



# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

### Part 2. Field Data Form (continued)

Number of trees (live or dead) > 30" DBH: 0 (none in vicinity of evaluation area)

Number (or density) of Standing Dead Trees (potential for cavities and perches):

<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>
6-12" dbh	12-18" dbh	18-24" dbh	> 24" dbh

Number of Tree Cavities in trunks or limbs of:

<u>1</u>
6-12" diameter (e.g., tree swallow, saw whet owl, screech owl, bluebird, other songbirds)
<u>0</u>
12-18" diameter (e.g., hooded merganser, wood duck, common goldeneye, mink)
<u>0</u>
>18" diameter (e.g., hooded merganser, wood duck, common goldeneye, common merganser, barred owl, mink, raccoon, fisher)

Small mammal burrows

☐ Abundant      ☒ Present      ☒ Absent

Cover/Perches/Basking/Denning/Nesting Habitat

- ☐ Dense herbaceous cover (voles, small mammals, amphibians & reptiles)
- ☒ Large woody debris on the ground (small mammals, mink, amphibians & reptiles)
- ☐ Rocks, crevices, logs, tree roots or hummocks under water's surface (turtles, snakes, frogs)
- ☐ Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1m above the water's surface (turtles, snakes, frogs, wading birds, wood duck, mink, raccoon)
- ☐ Rock piles, crevices, or hollow logs suitable for:
- |                                |                               |                                    |                               |                                 |   |
|--------------------------------|-------------------------------|------------------------------------|-------------------------------|---------------------------------|---|
| <input type="checkbox"/> otter | <input type="checkbox"/> mink | <input type="checkbox"/> porcupine | <input type="checkbox"/> bear | <input type="checkbox"/> bobcat | <input type="checkbox"/> turkey vulture |
|--------------------------------|-------------------------------|------------------------------------|-------------------------------|---------------------------------|---|
- ☐ Live or dead standing vegetation overhanging water or offering good visibility of open water (e.g., osprey, kingfisher, flycatchers, cedar waxwings)

Depressions that may serve as seasonal (vernal/autumnal) pools

☒ Present      ☐ Absent

Standing water present at least part of the growing season, suitable for use by

- |  |   |
|--|---|
| <input type="checkbox"/> Breeding amphibians | <input type="checkbox"/> Non-breeding amphibians (foraging, re-hydration) |
| <input type="checkbox"/> Turtles             | <input type="checkbox"/> Foraging waterfowl                               |

Sphagnum hummocks or mats, moss-covered logs or saturated logs, overhanging or directly adjacent to pools of standing water in spring (four-toed salamander)

☐ Present      ☒ Absent





# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

### Part 2. Field Data Form (continued)

Important habitat characteristics (if present, describe and quantify them on a separate sheet)

Medium to large (> 6"), flat rocks within a stream (cover for stream salamanders and nesting habitat for spring & two-lined salamanders)

☒ Present ☐ Absent

Flat rocks and logs on banks or within exposed portions of streambeds (cover for stream salamanders and nesting habitat for dusky salamanders)

☒ Present ☐ Absent

Underwater banks of fine silt and/or clay (beaver, muskrat, otter)

☐ Present ☒ Absent

Undercut or overhanging banks (small mammals, mink, weasels)

☐ Present ☒ Absent

Vertical sandy banks (bank swallow, kingfisher)

☐ Present ☒ Absent

Areas of ice-free open water in winter

☐ Present ☒ Absent

Mud flats

☐ Present ☒ Absent

Exposed areas of well-drained, sandy soil suitable for turtle nesting

☐ Present ☒ Absent

Wildlife dens/nests (if present, describe & quantify them on the back of this sheet)

Turtle nesting sites

☐ Present ☒ Absent

Bank swallow colony

☐ Present ☒ Absent

Nest(s) present of

☐ Bald Eagle

☐ Osprey

☐ Great Blue Heron

Den(s) present of

☐ Otter

☐ Mink

☐ Beaver



# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

### Part 2. Field Data Form (continued)

Project area is within:

- ☐ 100' of beaver, mink or otter den, bank swallow colony or turtle nesting area
- ☐ 200' of Great Blue Heron or osprey nest(s)
- ☐ 1400' of a Bald Eagle nest<sup>1</sup>

Emergent Wetlands (if present, describe & quantify them on a separate sheet)

Emergent wetland vegetation at least seasonally flooded during the growing season (wood duck, green heron, black-crowned night heron, king rail, Virginia rail, coot, etc.)

Flooded > 5 cm ☒ Present ☐ Absent

Flooded > 25 cm (pied-billed grebe) ☐ Present ☒ Absent

Persistent emergent wetland vegetation at least seasonally flooded during the growing season (mallard, American bittern, sora, common snipe, red-winged blackbird, swamp sparrow, marsh wren)

Flooded > 5 cm ☒ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☒ Absent

Cattail emergent wetland vegetation at least seasonally flooded during the growing season

Flooded > 5 cm (marsh wren) ☐ Present ☒ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☒ Absent

Fine-leaved emergent vegetation (grasses and sedges) at least seasonally flooded during the growing season (common snipe, spotted sandpiper, sedge wren)

Flooded > 5 cm ☒ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☒ Absent

#### IV. Landscape Context

##### A. **Habitat Continuity** (if present, describe the landscape context on a separate sheet and its importance for area-sensitive species)

- |   |                     |                              |  |
|---|---------------------|------------------------------|--|
| Is the impact area part of an emergent marsh at least | 1.0 acre in size?   | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| (marsh and waterbirds)                                | 2.0 acres in size?  | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
|   | 5.0 acres in size?  | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
|   | 10.0 acres in size? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

<sup>1</sup> 1400 feet is the distance used by NHESP for evaluating potential disturbance impacts on eagle nests under MESA. Keep in mind, however, that this doesn't give jurisdiction within 1400' of an eagle's nest; it only identifies it on the checklist so that adverse effects can be avoided if work in a resource area is within 1400 feet.



# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

### Part 2. Field Data Form (continued)

Is the impact area part of a wetland complex at least	2.5 acres in size?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
(turtles, frogs, waterfowl, mammals)	5.0 acres in size?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	10.0 acres in size?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	25.0 acres in size?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
For upland resource areas is the impact area part of contiguous forested habitat at least			
(forest interior nesting birds)	50 acres in size?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	100 acres in size?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	250 acres in size?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	500 acres in size?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
(grassland nesting birds)	> 1.0 acre in size?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
(special habitat such as gallery floodplain forest, alder thicket, etc.)	> 1.0 acre in size?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

#### B. Connectivity with adjoining natural habitats

- ☐ No direct connections to adjacent areas of wildlife habitat (little connectivity function)
- ☒ Connectors numerous or impact area is embedded in a large area of natural habitat (limited connectivity function)
- ☐ Impact area contributes to a limited number of connectors to adjacent areas of habitat (somewhat important for connectivity function)
- ☐ Impact area serves as *part of* a sole connector to adjacent areas of habitat (important for connectivity function)
- ☐ Impact area serves as *only* connector to adjacent areas of habitat (very important for connectivity function)

#### V. Habitat Degradation (describe degradation and wildlife impacts on the back of the sheet)

- ☐ Evidence of significant chemical contamination
- ☐ Evidence of significant levels of dumping
- ☒ Evidence of significant erosion or sedimentation problems
- ☐ Significant invasion of exotic plants (e.g., purple loosestrife, *Phragmites*, glossy buckthorn)
- ☒ Disturbance from roads or highways
- ☒ Other human disturbance
- ☐ Is the site the only resource area in the vicinity of an otherwise developed area

Note: These are not the only important habitat features that may be observed on a site. If the wildlife specialist identifies other features they should be noted in the application.



# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

### Part 2. Field Data Form (continued)

#### VI. Quantification Table for Important Habitat Characteristics

Habitat Characteristic	Amount Impacted in Impact Area	Current (entire site)	Post-Construction (entire site)
Example: standing dead trees 6-12" dbh	4	12	8
Bank (310 CMR 10.54) Int. Stream	55 linear feet	1600 linear feet (delineated Bank on site)	1600 linear feet (delineated Bank on site)
LUWB (310 CMR 10.56) Int. Stream	125 square feet	Approx. 15,000 SF LUWB on site	Approx. 15,000 SF LUWB on site
BVW (310 CMR 10.55)	0 square feet	Approx. 65,000 SF BVW on site	Approx. 65,000 SF BVW on site

---

# STORMWATER REPORT

Tetrahydra Agtek LLC

---

**Property Location:**

*0 Quarry Road  
Map #416, Lot #10  
Becket, MA 01223*

**Applicant:**

*Tetrahydra Agtek, LLC  
123B Seaview Avenue  
South Yarmouth, MA 02664*

**Civil Engineer:**

*Foresight Land Services, Inc.  
1496 West Housatonic Street  
Pittsfield, MA 01201*

**April 4, 2022**

**FORESIGHT**  
LAND SERVICES



**STORMWATER REPORT TABLE OF CONTENTS**

- a) Stormwater Report
- b) Summary of Storm Drainage Analysis
- c) Stormwater Recharge Worksheets
- d) TSS Removal Worksheets
- e) Water Quality Volume Worksheet
- f) Operations & Maintenance Plan
- g) Massachusetts DEP Checklist
- h) Proposed Site Drainage Area Plan (C-2A)

Plans: See Civil Site Plan Set, by Foresight Land Services, Dated April 4<sup>th</sup>, 2022.

**STORMWATER REPORT**  
**TETRAHYDRA AGTEK, LLC**  
**QUARRY ROAD, MAP 416, LOT 10, BECKET, MA**

In accordance with the Becket Zoning Bylaws, §6.8 Marijuana Establishments (ME) & Medical Marijuana Treatment Centers (MMYC), §9.3 Special Permit, Massachusetts DEP Stormwater Standards, and the “Guidelines for Soil and Water Conservation in Urbanizing Areas of Massachusetts”, the following narrative and compliance documentation are provided for the proposed stormwater system.

**INTRODUCTION**

This report accompanies an application for a Special Permit and a Notice of Intent in the Town of Becket in accordance with the Becket Zoning Bylaws and Conservation Commission.

The Tetrahydra Agtek project has been designed to minimize short term and long term impacts related to erosion and stormwater. Erosion and sedimentation control measures are specified to avoid impacts to the wetland resource areas adjacent ecosystems and off site properties. The project is subject to the Wetlands Protection Act since portions of the work will be performed within the 100 foot buffer zone. A Notice of Intent will be filed with this report to the Becket Conservation Commission . All stormwater will be controlled on site as required under the Becket Zoning Bylaw 9.4. *Site Plan Approval: 9.4.5 (2) Environmental (d)* stating that the proposed drainage system within and adjacent to the site must be adequate to handle the increased runoff resulting from the project. The stormwater system has been design so that the resulting stormwater conditions resemble, as nearly as possible, the existing conditions of volume, velocity, quality and location of runoff. Using MassDEP Stormwater regulations as a guide, calculations verifying that these requirements have been met are attached and are outlined within. A Stormwater Management Operation & Maintenance Plan with Long Term Pollution Prevention Plan has also been developed and can be provided upon request. Note: Complete calculations are available upon request.

A Stormwater Pollution Prevention Plan (SWPPP) and National Pollutant Discharge Elimination System (NPDES) permitting will be developed pending contractor selection.

**SITE DESCRIPTION**

The Tetrahydra Agtek parcel, Becket Assessors Map 416 Lot 10, is located on the north side of Quarry Road and consists of approximately 5.6± acres that has been subdivided from the original 80± acre lot.

An intermittent stream flows west to east through the parcel and bordering vegetated wetlands exist at the west edge of the parcel. The existing grades within the subject parcel are undulating and range from flat to steep. The parcel has historically been used for logging operations. Past logging operations have affected the boundaries and hydrology of resource areas on site and those boundaries are reflected by the wetland delineation flagging placed on site.

According to FEMA Flood Panel 250018 0017 A dated August 5, 1991, no portion of the property is located within the 100-year floodplain.

**PROPOSED PROJECT**

Tetrahydra Agtek, LLC has obtained a Special Permit from the Town of Becket, Massachusetts to construct a marijuana cultivation facility at 509 Quarry Road. This Stormwater Report is provided as

supplemental data to the Notice of Intent prepared by Tetrahydra Agtek, LLC. The facility will consist of a greenhouse cultivation structure, “head house”, outdoor overflow parking area, and accessory and support spaces such as administrative offices, dedicated staff break rooms, dedicated areas for fertigation, cloning, and vegetation of marijuana plants, separate curing, drying, trimming, and packaging rooms, and secure marijuana storage room/vaults. No public access or retail sales are proposed.

The project will include the proposed 31,310 square foot footprint greenhouse building including a gravel access driveway, parking areas, drainage, septic system, roof rain water capture, waste water holding tank, fencing, overhead power supply, generators, dumpsters, propane tank, a cultivation/domestic water supply well.

Pursuant to the Massachusetts Cannabis Regulations, 935 CMR 500, the facility will cultivate, process and package marijuana, and transfer marijuana to other licensed Marijuana Establishments, but not to consumers. Activities to occur onsite include:

- A. Propagation of Marijuana Plants
- B. Flowering of Marijuana Plants
- C. Harvesting of Marijuana Flower & Byproduct (i.e. trim for extraction)
- D. Drying & Curing of Marijuana Flower & Byproduct
- E. Packaging of Dried Marijuana Flower (for retail sale off-site)
- F. Storage of Dried Marijuana Flower & Byproduct
- G. Sale & Distribution of Dried Marijuana Flower & Byproduct to licensed marijuana retailers and manufacturers/processors.

The facility will be used to cultivate, produce, and package marijuana products and will be adequately secured to prohibit public access to facility. No retail sales of marijuana will be conducted on-site. Tetrahydra Agtek and the Town signed a host community agreement on October 22, 2021, which states the requirements to be followed as a cannabis establishment in the Town and according to the Cannabis Control Commission.

As designed, the proposed cultivation facility is located in an upland area, partially within the jurisdiction of the Wetland Protection Act (Buffer Zone); however portions of the related utility work, stormwater management system, and the proposed cultivation facility driveway require replacement of an existing stream crossing.

#### PROPOSED STORMWATER SYSTEM

*Stormwater will be conveyed to Stormwater Management Areas (SWMA) through a system of roof leaders, pipe drainage, vegetated swales, deep sump catch basins, manholes, swales, etc.*

The stormwater mitigation/infiltration areas are capable of handling the 2-year, 10-year-, 25-year, and 100-year storm events through the use of outlet control structures which will have multi-stage outlets to handle the 2-year, 10-year-, 25-year, and 100-year storm events.

*The Stormwater Management Areas (SWMA) proposed at the project site are as follows:*

- SWMA 1 – Water Quality Swale – Wet with a multi stage outlet control structure and approximately 2,065 Cubic Feet of storage. This management area is located in the southeast corner of the lot.



- SWMA 2 – Water Quality Swale -Wet with approximately 3,014 Cubic Feet of storage. This management area is located between n the proposed outdoor cultivation area and the intermittent stream that runs west to east through the lot.
- SWMA 3 – Water Quality Swale - Wet with approximately 33,541 Cubic Feet of storage. This management area is located in the northeast corner of the lot.
- SWMA 4– Subsurface infiltration system consisting of 6 rows of 11 Cultec Recharger 150XLHD chambers with an outlet control structure. This system is proposed to the north of the proposed indoor cultivation space, with a total storage of approximately 3528 Cubic Feet.

### CONSTRUCTION-PHASE MITIGATING MEASURES

Erosion and sedimentation control measures shall be installed prior to the beginning of construction and in accordance with the construction and sequencing schedule. Erosion controls shall be installed as shown on the plans and shall be maintained by the Sitework Contractor through the construction period until the site is completely stabilized. Additional sedimentation and erosion control measures shall be installed and maintained as determined in the field to be necessary to control sediments from stormwater runoff from leaving the construction site or being deposited in any wetlands or watercourses. Erosion and sedimentation control measures shall be installed and maintained as indicated on the plans and specifications, as directed, and as evidently required to control sedimentation.

Erosion controls shall remain in place and shall be maintained in functional order until the construction site has vegetated and stabilized, and the Conservation Commission has authorized the removal. Erosion controls shall also be used for approximate limit of work.

A stabilized construction entrance (anti-tracking pad) will be installed and maintained to prevent tracking mud onto Quarry Road. Sweeping will be performed as needed.

Disturbed areas shall be finished graded and stabilized with vegetation, gravel, or pavement as soon in the construction schedule as possible. Stock piled material shall be protected from erosion by covering or establishing erosion controls ringing the base of temporary piles.

### ESTIMATED CONSTRUCTION SCHEDULE AND SEQUENCING

(Estimated schedule to be confirmed – preliminary for permitting only)

Construction work for the Project will be undertaken in an orderly and phased manner and carried out in a way designed to avoid disruption to the area to the maximum degree possible. Construction will be phased so that, to the extent possible, construction will be completed and the area restored before commencing the next phase. At all times during construction appropriate noise, sedimentation and erosion controls shall be employed. The Project will be phased to minimize disruption and disturbance with sedimentation and erosion controls applicable to the operations being performed.

Estimated Construction Sequence (Subject to Change)

- Begin sitework
- Install erosion control barriers, stabilized construction entrance; maintain throughout construction
- Install sediment traps
- Install straw bale inlet sediment traps around catch basins as applicable
- Clear vegetation on site proposed for removal. Protect vegetation to remain

- Strip and stockpile topsoil on site; cover stockpiles with temporary vegetation, tarps, etc; ring with erosion control barriers
- Construct temporary diversion swales to direct uphill drainage away from construction site; discharge into temporary sediment traps
- Construct driveways; install temporary waterway check dams on both side of driveways as required; install straw bale check dam across upper end of existing entrance drive at end of each work day; remove sediments and maintain entrance driveway as required; sweep pavement at end of each construction day; more frequently as needed to prevent tracking onto state highway;
- Earthwork – cuts and fills; as soon as practical, stabilize disturbed slopes with temporary vegetation, erosion control fabric and/or tarps
- Install additional sediment traps as grading and drainage patterns change
- Maintain all erosion and sedimentation control measures throughout construction – typical
- Prepare and install underground infiltration areas– cap off and bypass storm drainage to temporary stilling basin(s) (do not allow runoff water to enter infiltrators until all sitework is completed)
- Install main line drainage conveyance system
- Install inlet sediment traps around all drainage structures
- Rough grade parking and driveways areas
- Construct building foundation
- Install other site utilities: sewer and water connection, electric/telephone/data, gas, etc
- Begin building construction
- Complete storm drainage and site utilities. Connect drainage system to SWMA's
- Fine grade parking areas and fine grade slopes and embankments
- Pave driveways (base course)
- Topsoil, erosion control fabric, and temporary seed slopes and embankments
- Stabilize all earth slopes with additional measures as required
- Install landscaping
- Final paving, striping, cleanup
- Complete sitework
- Complete building construction

### STORMWATER COMPLIANCE

The following demonstrates that the proposed stormwater management system is in compliance to the maximum extent practicable with the performance standards as outlined in the MassDEP Stormwater Management Handbook.

- *Standard #1: No new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.*

Standard #1 is Met (See Standards 4-6 for Additional Information) – There are no new untreated discharges to wetlands associated with the proposed work. Proposed roof drainage is treated by stormwater infiltration systems. No untreated point source discharges are proposed within the wetlands' Buffer Zone. All storm drain outlet pipes will have flared end sections and discharge onto a stone scour pad.

- *Standard #2: Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04.*

Standard #2 is Met – Post-development peak discharge rates do not exceed the pre-development rates. The proposed drainage improvements do not increase the peak discharge rates for the 2-year, 10-year, 25-year, and 100-year design storm events. See the attached Drainage Analysis Summary for more information.

- *Standard #3: Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.*

Standard #3 is Met – The annual recharge from the post-development site approximates the annual recharge from pre-development conditions. The soil is classified as Hydrologic Group A by NRCS has a design recharge rate of 0.60 inches of runoff. Infiltration chambers taking roof runoff are proposed to provide annual recharge.

- *Standard #4: Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:*
  - a. Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained;*
  - b. Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and*
  - c. Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.*

Standard #4 is Met – TSS removal is met through the use of a treatment chain including water quality swales, and subsurface structures/infiltration chambers. The percent of TSS removal is calculated to be greater than 80%.

- *Standard #5: For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.*

Standard #5 is Not Applicable – The proposed work does not constitute as an area with higher pollutant loads.

- *Standard #6: Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A*

*discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "storm water discharge" as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.*

Standard #6 is Not Applicable – The proposed discharge area is not within the Zone II or an Interim Wellhead Protection Area of a public water supply, and stormwater does not discharge near or to any critical area.

- *Standard #7: A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.*

Standard #7 is Not Applicable – The proposed work is not considered a redevelopment project.

- *Standard #8: A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.*

Standard #8 is Met – Erosion and sedimentation control measures are proposed through the use of straw wattles or coir logs, and where applicable, straw bales and silt fence. Construction Sediment Traps will be installed and maintained. All erosion and sedimentation control measures will be maintained throughout the construction stage, and shall not be removed until the site is properly stabilized. The project will be covered by a NPDES Construction General Permit and a SWPPP will be submitted before land disturbance begins.

- *Standard #9: A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.*

Standard #9 is Met – A long-term operation and maintenance plan has been prepared and the Stormwater system has been designed to provide ease of inspection and maintenance and protect the wetland resources.

- *Standard #10: All illicit discharges to the stormwater management system are prohibited.*

Standard #10 is Met – There are no known illicit discharges that have been observed within the proposed area of work. A sample *Illicit Discharge Compliance Statement* is attached within the Operation and Maintenance Plan.

## CONCLUSION

The design of the sitework and stormwater management system has been developed to minimize impacts to the site during and after construction, to prevent erosion, capture construction sediments, and to control

stormwater runoff from the site. Erosion Control Barriers are proposed to prevent sediment from leaving the construction site and protect wetland resource areas of the project area. The proposed site work plans specify erosion and sedimentation control measures to avoid disturbance to the nearby resource areas. Stormwater management has been designed to maximize pollution removal, infiltrate stormwater to recharge groundwater, mimic existing drainage patterns, and prevent overloading of any downstream drainage facilities.

**DRAINAGE ANALYSIS SUMMARY**  
**TETRAHYDRA AGTEK**  
**QUARRY ROAD, BECKET, MA**

**Basis Of Study**

- 1) This storm drainage analysis is submitted for review under Becket Zoning By-Law Section 9.3 Special Permit, as an analysis of impacts on the natural environment from the proposed campground.
- 2) The stormwater management system on the project site includes the following Best Management Practices:
  - Open conveyance systems to direct flows
  - Roof drainage diverted into infiltration chambers on stone bed, and/or water quality swales to treat runoff, recharge ground water, and/or attenuate peak flows.
  - Minimizing extent of sitework by clustering development.
  - Operation and maintenance measures including catch basin sump, drainage channel, water quality swale, and infiltration chamber maintenance.
- 3) The hydrologic conditions of the site are analyzed under both the Existing (Pre-development) Conditions and Future (Post-development) Conditions for the 2, 10, 25 and 100-year design storm analysis. Design Points are chosen where the storm drainage leaves the project limits, down gradient of the proposed development. The Design Points allow comparison of the Existing and Future Conditions. These Design Points and Drainage areas (subcatchments) are shown on the Drainage Calculations.
- 4) Contributing drainage areas and vegetative cover conditions have been delineated on the basis of available topographic maps, record plans, and general field observations. Soil types underlying the various areas of the site have been identified using the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey ([websoilsurvey.sc.egov.usda.gov](http://websoilsurvey.sc.egov.usda.gov)). Hydrologic Soil Groups were then determined for each subcatchment. This data was then utilized to calculate the Runoff Curve Numbers for each subcatchment.
- 5) The Time of Concentration ( $T_c$ ) of the runoff within each subcatchment is determined using TR-55 sheet flow, shallow concentrated flow, channel flow, and other conditions, based on the available topographic mapping and field observation.
- 6) Precipitation records for each design storm are taken from NOAA Atlas 14, Volume 10, Version 2, Precipitation Frequency Data Server. For project site in Becket, the following values are listed:

2-year 24 hour storm	3.34"
10-year 24 hour storm	5.44"
25-year 24 hour storm	6.75"
100-year 24 hour storm	8.78"

- 7) Maximum flow capacities of the existing and proposed drainage structures are calculated assuming the inlet structures, piping, and discharge channels are maintained in good condition, unobstructed by sediment or debris.

- 8) Peak Rates of Runoff are calculated for the Existing and Future conditions using computerized hydrology and hydraulics programs. This study was performed utilizing "HydroCAD", v. 10.00, ©2019 HydroCAD Software Solutions LLC. This program is based on the methods promulgated by USDA Natural Resources Conservation Service (formerly known as Soil Conservation Service) in Technical Release Number 20 (TR-20) and the simplified tabular method contained in TR-55. Refer to the attached summaries.

### **Summary and Conclusions**

The Peak Outflow at the design points analyzed will not increase as a result of the proposed project for the 2-year, 10-year, 25-year, and 100-year storm events. Refer to the following Table A, which summarize the results of the storm drainage analysis.

**Table A**  
**Summary of Storm Drainage Analysis Comparison of Peak Rates of Runoff**  
 24-Hour Design Storm Event (Precipitation-inches)

<b><u>Reach 1 (1R) Drainage Area</u></b>				
	<b>2yr (3.34")</b>	<b>10yr (5.44")</b>	<b>25yr (6.75")</b>	<b>100yr (8.78")</b>
<b>Pre-Development (Q)</b>	1.05	5.46	9.02	15.23
<b>Post-Development (Q)</b>	1.02	5.18	8.27	14.55
<b>Reduction (cfs)</b>	0.03	0.28	0.75	0.68
<b>(%)</b>	2.9%	5.1%	8.3%	4.5%

<b><u>Reach 2 (2R) Drainage Area</u></b>				
	<b>2yr (3.34")</b>	<b>10yr (5.44")</b>	<b>25yr (6.75")</b>	<b>100yr (8.78")</b>
<b>Pre-Development (Q)</b>	0.00	0.18	0.66	1.85
<b>Post-Development (Q)</b>	0.00	0.18	0.66	1.84
<b>Reduction (cfs)</b>	0.00	0.00	0.00	0.01
<b>(%)</b>	0.0%	0.0%	0.0%	0.5%

<b><u>Reach 3 (3R) Drainage Area</u></b>				
	<b>2yr (3.34")</b>	<b>10yr (5.44")</b>	<b>25yr (6.75")</b>	<b>100yr (8.78")</b>
<b>Pre-Development (Q)</b>	0.02	0.46	0.95	1.92
<b>Post-Development (Q)</b>	0.00	0.16	0.45	1.07
<b>Reduction (cfs)</b>	0.02	0.30	0.50	0.85
<b>(%)</b>	100%	65.2%	52.6%	44.3%



The design and size of the facilities are based on the anticipated runoff from a 2, 10, 25, and 100-year storm event per MassDEP Stormwater Handbook. Any new development within the watershed would require stormwater controls to mitigate for peak rates of runoff.

**RECHARGE & STORMWATER SIZING WORKSHEET**

**TETRAHYDRA AGTEK  
QUARRY ROAD, BECKET, MA**

**CALCULATE RECHARGE VOLUME**

1. Total Area of Hydrological Group A soils (Aa) = 3.994 acres
2. Total Impervious Area overlaying Group A (Ia) = 0.735 acres (32015 SF)
3. Total Area of Hydrological Group B soils (Ab) = 2.787 acres
4. Total Impervious Area overlaying Group B (Ib) = 0 acres
5. Total Area of Hydrological Group C soils (Ac) = 0 acres
6. Total New Impervious Area overlaying Group C (Ic) = 0 acres
7. Total Area of Hydrological Group D soils (Ad) = 1.715 acres
8. Total Impervious Area overlaying Group D (Id) = 0 Acres

**Recharge Volumes: (ReVn) where n = soil class**

1. ReVa: Ia x 0.60 = 0.735 acres x 0.60 inches = 0.441 acre-inches
2. ReVb: Ib x 0.35 = 0 acres x 0.35 inches = 0 acre-inches
3. ReVc: Ic x 0.25 = 0 acres x 0.25 inches = 0 acre-inches
4. ReVd: Id x 0.10 = 0 acres x 0.10 = 0 acre-inches
5. Total Recharge Volume: (ReV = ReVa + ReVb + ReVc + ReVd)

$$\text{ReV} = \quad 0 \quad + \quad 0 \quad + \quad 0.441 \quad + \quad 0 \quad = \quad 0.441 \quad = \quad \mathbf{0.03675 \text{ acre-feet}}$$

acre-inches ÷ 12

**IDENTIFY RECHARGE VOLUME TO BE INFILTRATED**

ReV = **0.03675 acre-feet**

0.03675 ac-ft \* 43,560SF/ac = 1600.83 CF **SAY 1601 CF required**

**Total Impervious/ Impervious Directed to Recharge Facilities (SF) = 32015/ 31310 = 1.023**

Total storage provided in SWMA systems (Static Method) =

**1601CF (1.023)= 1637.65 CF Required**

- Storage volume provided Underground Structures Chambers in stone bed: 6 Rows of 11 Chambers (Cultec R-150XLHD)= **2,352 CF Below Low-Flow Orifice**

**TOTAL RECHARGE VOLUME SUPPLIED = 2,352 CF**

CALCULATE DRAWDOWN TIME (72 HOURS MAXIMUM)

Drawdown time =  $R_v / [(K) * (\text{Bottom Area})]$

$R_v$  = Provided Recharge Volume

$K$  = Saturated Hydraulic Conductivity for “Static” Method

(Table 2.3.3 – Mass Stormwater Handbook) = 0.60 inches/hour

Infiltration Chamber System Drawdown Time =

$$\frac{2,352 \text{ CF}}{[(0.60 \text{ inch/hr}) * (2425.5 \text{ SF BED}) * (1 \text{ ft}/12 \text{ in})]} = \underline{19.4} \text{ hours}$$

ANALYZE EFFECTS OF GROUNDWATER MOUNDING

*A mounding analysis should be provided where infiltration (bottom of structure) occurs less than 4' from estimated seasonal high ground water and the recharge system is designed to attenuate the peak discharge from a 10-year or higher 24-hour storm.*

It is not anticipated that the bottom of the infiltration stone will be less than 2' from estimated seasonal high ground water. Prior to construction, the applicant will analyze existing site soils below the proposed infiltration areas. Adjustments to the system will be made if high groundwater is encountered to avoid negative impacts due to high groundwater.

EFFECT OF INFILTRATION SYSTEM ON NEARBY WETLANDS

*The following documentation is provided to show that the infiltration BMP's will not adversely affect nearby wetland resource areas.*

The infiltration system will not adversely affect the nearby wetlands. The primary infiltration/ groundwater recharge for the site will be provided by the stone-filled infiltration beds which collect and mitigate stormwater runoff from the site and will recharge groundwater hydrology.

## **TSS Removal Calculation Sheet Instructions**

Either a completed automated form or non-automated form must be submitted as part of the Stormwater Report accompanying the Wetlands NOI

### **Automated Version Instructions**

The automated version may be used EXCEPT when a Proprietary BMP is proposed. This is because Proprietary BMPs have variable removal rates.

The only exceptions are for Proprietary BMPs reviewed through the TARP Tier II Field Protocol for which MassDEP has granted written reciprocity.

BMPs must be designed in accordance with the Design Specifications contained in Mass. Stormwater Handbook Volume II to receive the TSS Removal Rating.

Separate Excel spreadsheets must be completed for each stormwater outlet or BMP train.

E.g. if there are two separate BMP trains discharging to two separate stormwater outlets, two separate sheets must be submitted.

Separate sheets must be submitted for Pretreatment (e.g. for 44% TSS removal prior to recharge) and Treatment (e.g. 80% TSS removal for new development).

To use automated sheet:

Click on Worksheet Tab labeled Automated Sheet

Click on Cell B11 (Shaded Blue)

Carrot Appears in lower right side of Cell B11

Click on Carrot

Drop Down Menu of BMPs will open. The BMPs are those listed in Volume I. No proprietary BMPs are listed in Drop Down Menu.

BMPs are listed alphabetically

Select One BMP per block. Start with most upgradient practices.

After BMP is selected in Cell B11, Cell C11 will automatically be populated with the DEP assigned TSS Removal Rate.

If there are multiple BMPs, go to Cell B12, select BMP, and so on (i.e. select BMPs in Cell B13, B14, and B15).

Final result is returned in Cell E16

All cells are locked except for Column B (to select BMPs) and Location, Project, Prepared By, and Date blocks.

Complete Location, Project, Prepared by, and Date Blocks.

### **Non-automated Sheet**

The non-automated version must be completed if any Proprietary BMPs or traditional non-listed BMPs are proposed.

The non-automated version is locked to prevent it from being manipulated.

The non-automated version must be printed and completed by hand or typewriter.

Write name of BMP in Column B.

Write annual TSS removal rate in Column C (written documentation must be submitted to issuing authority substantiating TSS removal claim)

Multiply Column C by Starting Load in Column D and enter Result in Column E (e.g. Deep Sump CB  $0.25 \times 1 = 0.25$ , Enter 0.25 in Column E).

Subtract Column E from D, Enter Result in Column F (e.g.  $1.00 - 0.25 = 0.75$ , Enter 0.75 in Column F).

Enter new BMP in Column B, next row down. Enter TSS Removal Rate in that same row.

In Column D, enter Starting Load from prior Row (e.g. 0.75).

Multiply Column C TSS Removal Rate by new starting load, and enter result into Column E, and so on.

Add up all the values listed in Column E.

Enter final result in Cell E16, block that is labeled Total TSS Removal.

Complete Location, Project, Prepared by, and Date Blocks.

## Documentation

VERSION 1, March 4, 2008

Automated Sheet

Drop Down Menu in Column B created using "Data Validation"

Column C populated using data array from hidden table using "Vertical Lookup"

Column D values from Column F

Column E values products of Column C x Column D values

Column F values Column D - Column E

TSS Removal Efficiencies for Best Management Practices	
Best Management Practice (BMP)	TSS Removal Efficiency
<b>Non-Structural Pretreatment BMPs</b>	
Street Sweeping	0-10%, See Volume 2, Chapter 1.
<b>Structural Pretreatment BMPs</b>	
Deep Sump Catch Basins	25% only if used for pretreatment and only if off-line
Oil Grit Separator	25% only if used for pretreatment and only if off-line
Proprietary Separators	Varies – see Volume 2, Chapter 4.
Sediment Forebays	25% if used for pretreatment
Vegetated filter strips	10% if at least 25 feet wide, 45% if at least 50 feet wide
<b>Treatment BMPs</b>	
Bioretention Areas including rain gardens	90% provided it is combined with adequate pretreatment
Constructed Stormwater Wetlands	80% provided it is combined with a sediment forebay
Extended Dry Detention Basins	50% provided it is combined with a sediment forebay
Gravel Wetlands	80% provided it is combined with a sediment forebay
Proprietary Media Filters	Varies – see Volume 2, Chapter 4
Sand/Organic Filters	80% provided it is combined with sediment forebay
Treebox filter	80% provided it is combined with adequate pretreatment
Wet Basins	80% provided it is combined with sediment forebay
<b>Conveyance</b>	
Drainage Channels	For conveyance only. No TSS Removal credit.
Grass Channels (formerly biofilter swales)	50% if combined with sediment forebay or equivalent
Water Quality Swale – wet & dry	70% provided it is combined with sediment forebay or equivalent
<b>Infiltration BMPs</b>	
Dry Wells	80% for runoff from non-metal roofs; may also be used for runoff from metal roofs but only if metal roof is not located within a Zone II, or IWPA or at an industrial site
Infiltration Basins & Infiltration Trenches	80% provided it is combined with adequate pretreatment (sediment forebay or vegetated filter strip, grass channel, water quality swale) prior to infiltration
Leaching Catch Basins	80% provided a deep sump catch basin is used for pretreatment
Subsurface Structure	80% provided they are combined with one or more pretreatment BMPs prior to infiltration.
<b>Other BMPs</b>	
Dry Detention Basins	For peak rate attenuation only. No TSS Removal credit.
Green Roofs	See Volume 2, Chapter 2. May reduce required water quality volume. No TSS Removal Credit.
Porous Pavement	80% if designed to prevent runoff and with adequate storage capacity. Limited to uses identified in Volume 2, Chapter 2.
Rain Barrels and Cisterns	May reduce required water quality volume. No TSS Removal Credit.

From MassDEP Stormwater Handbook Vol. 1

## INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Version 1, Automated: Mar. 4, 2008

Location: Reach 3 (Grass on Gravel Parking)

TSS Removal Calculation Worksheet	B	C	D	E	F
	BMP <sup>1</sup>	TSS Removal Rate <sup>1</sup>	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
	Water Quality Swale - Wet	0.70	1.00	0.70	0.30
		0.00	0.30	0.00	0.30
		0.00	0.30	0.00	0.30
		0.00	0.30	0.00	0.30
		0.00	0.30	0.00	0.30

Total TSS Removal =

70%

Separate Form Needs to  
be Completed for Each  
Outlet or BMP Train

Project: E2988- Tetrahydra Agtek  
Prepared By: AZM  
Date: 1/22/2022

\*Equals remaining load from previous BMP (E)  
which enters the BMP





## INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Version 1, Automated: Mar. 4, 2008

Location: Reach1 (Porous Pavement)

TSS Removal Calculation Worksheet	B	C	D	E	F
	BMP <sup>1</sup>	TSS Removal Rate <sup>1</sup>	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
	Porous Pavement	0.80	1.00	0.80	0.20
		0.00	0.20	0.00	0.20
		0.00	0.20	0.00	0.20
		0.00	0.20	0.00	0.20
		0.00	0.20	0.00	0.20

Total TSS Removal =

80%

Separate Form Needs to  
be Completed for Each  
Outlet or BMP Train

Project: E2988- Tetrahydra Agtek  
Prepared By: AZM  
Date: 1/22/2022

\*Equals remaining load from previous BMP (E)  
which enters the BMP



## INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Version 1, Automated: Mar. 4, 2008

Location: Reach 1 (Roof Drainage)

TSS Removal Calculation Worksheet	B	C	D	E	F
	BMP <sup>1</sup>	TSS Removal Rate <sup>1</sup>	Starting TSS Load*	Amount Removed (C*D)	Remaining Load (D-E)
	Subsurface Infiltration Structure	0.80	1.00	0.80	0.20
	Water Quality Swale - Wet	0.70	0.20	0.14	0.06
		0.00	0.06	0.00	0.06
		0.00	0.06	0.00	0.06
		0.00	0.06	0.00	0.06

Total TSS Removal =

94%

Separate Form Needs to  
be Completed for Each  
Outlet or BMP Train

Project: E2988- Tetrahydra Agtek  
Prepared By: AZM  
Date: 1/22/2022

\*Equals remaining load from previous BMP (E)  
which enters the BMP



**EXHIBIT D**  
**TSS REMOVAL WORKSHEET**

Project: Tetra Hydra Agtek  
For Stormwater Water Quality - Standard 4 (1" water quality volume storm)

Calc by: AZM  
FLS Proj. E2988  
Date: 4/4/2022

<b>WEIGHTED TSS REMOVAL CALCULATION WORKSHEET (Mass. DEP)</b>				
<b>Description of BMP</b>	<b>Volume to BMP (acre-feet)</b>	<b>TSS removal % (MassDEP)</b>	<b>TSS Volume removed by BMPs</b>	<b>% of Annual Volume treated by BMP</b>
ROOF (Indoor Cultivation Roof)	0.059898225	94%	0.00056	0.6
PARKING (Grass on Gravel)*	0.013869758	70%	0.00010	0.1
POROUS PAVEMENT*	0.021962045	80%	0.00018	0.2
P-S4 (Paved Driveway Apron)	0.00162611	0%	0.00000	0.0
<b>Totals</b>	<b>0.097</b>		<b>0.00084</b>	

\* These areas are not impervious surfaces and have been included as a conservative measure to indicate the sufficient TSS removal percentages

**Weighted TSS % Removal = 86%**

Project: E2988 - Tetrahydra Agtek  
Prepared By: AZM  
Date: 3/31/2022

**WATER QUALITY VOLUME WORKSHEET****TETRAHYDRA AGTEK  
QUARRY, BECKET MA**

WQV= water quality volume

ReV = recharge volume

I = total impervious area (including rooftop)

Ir = rooftop impervious area

RR = rooftop runoff

1. Total Contributing Site Area 8.5 acres
2. Percent New Impervious 0.9 %
3. Total New Impervious Area (I) 0.735 acres (new impervious)
4. Find WQV:

(a) using 1.0" rule:  $WQV = (1.0'')(I) = \underline{0.735 \text{ acre-inches}} / 12 \text{ inches} = \underline{0.06125 \text{ Acre-feet}}$

**Determine Amount of WQV to be conveyed through water quality BMP's****=WQV = 0.062 acre-feet****0.062 ac-ft \* 43,560 SF/ac = 2,668.05 CF SAY 2,675 CF required****Total storage Provided = 826 + 225 + 4,127 CF\* > 2,675 CF Required**

\* Storage volume provided in SWMA 1, 2, 3 below low flow outlets/ weirs.

**OPERATION & MAINTENANCE PLAN**  
**TETRAHYDRA AGTEK, LLC**  
**QUARRY ROAD, BECKET, MA**

**PROJECT DATA:**Name: Tetrahydra Agtek, LLCAddress: 509 Quarry Road, Becket MA**OWNER OF STORMWATER SYSTEM:**Name: Tetrahydra Agtek, LLCContact Person: Michael GoodenoughAddress: 123B Seaview Avenue, South Yarmouth, MA 02664

Phone: \_\_\_\_\_

**OPERATOR RESPONSIBLE FOR OPERATION & MAINTENANCE OF SYSTEM:**Name: Tetrahydra Agtek, LLC**BRIEF SUMMARY OF PROJECT**

The Tetrahydra Agtek parcel, Becket Assessors Map 416 Lot 10, is located on the north side of Quarry Road and consists of approximately 5.6± acres that has been subdivided from the original 80± acre lot.

An intermittent stream flows west to east through the parcel and bordering vegetated wetlands exist at the west edge of the parcel. The existing grades within the subject parcel are undulating and range from flat to steep. The parcel has historically been used for logging operations. Past logging operations have affected the boundaries and hydrology of resource areas on site and those boundaries are reflected by the wetland delineation flagging placed on site.

According to FEMA Flood Panel 250018 0017 A dated August 5, 1991, no portion of the property is located within the 100-year floodplain.

**PROPOSED PROJECT**

The project will include the proposed 31,310 square foot footprint greenhouse building including a gravel access driveway, parking areas, drainage, septic system, roof rain water capture, waste water holding tank, fencing, overhead power supply, generators, dumpsters, propane tank, a cultivation/domestic water supply well.

Pursuant to the Massachusetts Cannabis Regulations, 935 CMR 500, the facility will cultivate, process and package marijuana, and transfer marijuana to other licensed Marijuana Establishments, but not to consumers. Activities to occur onsite include:

- A. Propagation of Marijuana Plants
- B. Flowering of Marijuana Plants
- C. Harvesting of Marijuana Flower & Byproduct (i.e. trim for extraction)
- D. Drying & Curing of Marijuana Flower & Byproduct
- E. Packaging of Dried Marijuana Flower (for retail sale off-site)
- F. Storage of Dried Marijuana Flower & Byproduct
- G. Processing of marijuana



H. Sale & Distribution of Dried Marijuana Flower & Byproduct to licensed marijuana retailers and manufacturers/processors.

The facility will be used to cultivate, produce, and package marijuana products and will be adequately secured to prohibit public access to facility. No retail sales of marijuana will be conducted on-site. Tetrahydra Agtek and the Town signed a host community agreement on October 22, 2021, which states the requirements to be followed as a cannabis establishment in the Town and according to the Cannabis Control Commission.

As designed, the proposed cultivation facility is located in an upland area, partially within the jurisdiction of the Wetland Protection Act (Buffer Zone); however portions of the related utility work, stormwater management system, and the proposed cultivation facility driveway require replacement of an existing stream crossing.

### **WETLANDS AND RECEIVING WATERS**

The site does not include wetlands, but drainage will ultimately be received by jurisdictional wetlands nearby which are protected under the Mass. Wetlands Protection Act administered by the Conservation Commission, and the Federal Clean Waters Act. These include the wetland resource areas as described in the Notice of Intent and depicted on the attached plans.

*Note: Under the Mass. Wetlands Protection Act regulations (310 CMR 10.02 (3), 1997 revisions), maintenance of the stormwater management system affecting any wetland areas which were previously created for the purpose of stormwater management, does not require the filing of a Notice of Intent or a Request for Determination of Applicability. For example, assume that a water quality basin, wet detention basin, or outlet swale are constructed for the project. These drainage facilities will naturally become populated with wetland vegetation. Five years later, maintenance needs to be performed to remove accumulated sediments from the drainage basins or outlet swale. This work does not constitute alteration of wetlands, and does not require filing or approval under the WPA, as long as the work is only maintenance. (Enlargement or substantial changes to the drainage system would require approval.) However, as a matter of good communication, we recommend that the Owner or Operator notify the Conservation Commission before the maintenance work is begun. The Order of Conditions issued by the Conservation Commission may have additional conditions or requirements that continue after the Certificate of Compliance is issued for construction. A copy of the Order of Conditions and any continuing conditions should be attached to this Operation and Maintenance Plan.*

Owner, Operator, Contractor(s), and other personnel who perform work on the site should become familiar with the location and characteristics of the wetland resource areas, and of the requirements under the applicable federal, state, and local laws and regulations. Wetlands in close proximity of work areas should be flagged with signage. Work within 100' of Bordering Vegetated Wetlands (BVW) or Bank (Intermittent Stream) is under the jurisdiction of the Conservation Commission and must be reviewed prior to work proposed within the 100-foot Buffer Zone.

This Operation and Maintenance Plan is an essential component of the Stormwater Management System for the Project. The Owner is ultimately responsible for assuring that the Stormwater System is operated and maintained in accordance with all applicable permits and approvals, including, but not limited to Massachusetts Wetlands Protection Act permits, Massachusetts Stormwater Management Policy, Massachusetts Groundwater or Surface Water Discharge Permits, and U.S.E.P.A. General Permit, and the Becket Bylaws. Copies of all applicable permits and plans should be attached to this O&M plan. All Permit requirements are incorporated by reference into this Operation and Maintenance Plan whether they are attached or not.

**SCHEDULE FOR INSPECTION AND ROUTINE MAINTENANCE OF STORMWATER SYSTEM:**

*Note: Notification of Conservation Commission is recommended before performing any excavation or major maintenance of the stormwater system, though stormwater structures are not considered wetland resources. All components of the Stormwater System shall be inspected after every major storm event for the first few months after construction to ensure proper stabilization and function.*

Drainage Channels	<ul style="list-style-type: none"> <li>• Inspect Bi-Annually in the Spring and Fall;</li> <li>• Check for sediments; remove sediments if more than 4" deep. Remove sediment and debris at least once per year.</li> <li>• Check inlet and outlet pipes for debris or obstructions. Clean as necessary;</li> <li>• Mow applicable areas at least once per year with a minimum grass length of 4", Grass height shall not exceed 6" or be cut less than 3". Mow as needed during growing season;</li> <li>• Inspect and maintain outlet control device as applicable;</li> <li>• Maintain as required with additional mowing, fertilizing, liming, watering, pruning, weeding, and pest control. Re-seed periodically to maintain dense grass growth. Plant with alternative grass species if the original grass cover is not successfully established.</li> </ul>
Porous Pavement	<ul style="list-style-type: none"> <li>• As Needed -Monitor to ensure that the paving surface drains properly after storms;</li> <li>• As needed - For porous asphalts and concretes, clean the surface using power washer to dislodge trapped particles and then vacuum sweep the area. For paving stones, add joint material (sand) to replace material that has been transported;</li> <li>• Annually inspect the surface for deterioration;</li> <li>• As needed, but at least once a year, assess exfiltration capability;</li> <li>• As needed, but at least once a year, when exfiltration capacity is found to decline, implement measures from the Operation and Maintenance Plan to restore original exfiltration capacity.</li> <li>• As needed, reseed grass pavers to fill in bare spots.</li> </ul>
Catch Basin Sumps	<ul style="list-style-type: none"> <li>• Inspect quarterly and clean inlets;</li> <li>• Inspect or clean sump at the end of the foliage and snow-removal seasons.</li> <li>• Remove sediments if greater than ½ sump capacity;</li> <li>• Remove Sediments from sumps annually in the spring, at a minimum;</li> <li>• Dispose of sediments and debris off site at approved location in accordance with applicable state and federal laws and regulations.</li> </ul>
Water Quality Swales	<ul style="list-style-type: none"> <li>• For the first few months after construction and twice a year thereafter, inspect swales to make sure vegetation is adequate and slopes are not eroding and check for rilling and gullyng.</li> <li>• Repair eroded areas and revegetate as necessary.</li> <li>• Mow as needed ~ two to twelve times a year</li> <li>• Manually remove sediments and debris at least once per year.</li> <li>• Re-seed as necessary</li> </ul>
Level Lip Spreader	<ul style="list-style-type: none"> <li>• Inspect level spreaders regularly, especially after large rainfall events.</li> <li>• Note and repair any erosion or low spots in the spreader.</li> </ul>
Infiltration Chambers	<ul style="list-style-type: none"> <li>• Inspect Bi-Annually in the Spring and Fall</li> <li>• Periodically monitor water depths at 0, 24, and 48 hours after a storm event to check infiltration rates over a period of years to determine clogging problems.</li> </ul>

**LONG TERM POLLUTION PREVENTION PLAN**

Good Housekeeping Practices:

Where applicable, the Operator shall apply good housekeeping practices including, but not limited to the following. See SWPPP for additional information:

Materials Management: As applicable

- An effort will be made to store only enough product required to perform the required work. Regular inventory of materials will reduce the occurrence of overstocking.
- All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, wherever possible, should be under a roof or other enclosure to prevent contact with stormwater.
- Products will be kept in their original containers with the original manufacturer's label.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product will be used up before disposing of the container.
- Manufacturer's recommendations for proper use and disposal will be followed.
- The Operator will inspect daily to ensure proper use and disposal of materials onsite.
- Routinely clean work space and maintain machinery.
- Regularly inspect equipment and facilities.
- Train employees to respond to spills or leaks.

Vehicle Washing Controls: As applicable

- Wash vehicles on gravel, grass, or other permeable surface outside of the Buffer Zone or pump wash water runoff to a permeable area.
- Block off catch basin grates, if applicable.
- Use hose nozzles that turn off automatically.
- Use only biodegradable soaps.

Other Good House Keeping Practices:

- Litter and other debris shall be collected and properly disposed of as frequently as necessary
- Property owners shall keep the site maintained and in an orderly manner to protect downstream resources.

Storage & Use of Hazardous Products, Petroleum Products, Fertilizers, Herbicides, & Pesticides:

Where applicable, the following practices will be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. (If a Total Maximum Daily Load (TDML) is developed that indicates that use of fertilizers containing nutrients must be reduced, a nutrient management plan shall be developed.)

Hazardous Products:

- Shall be stored in a secured area under cover
- Products will be kept in original containers unless they are not re-sealable.
- Original labels and material safety data will be retained; they contain important product information.
- If surplus product must be disposed of, manufacturer's or local and State recommended methods for proper disposal will be followed.

Petroleum Products:

- Shall be stored in a secured area undercover.
- All onsite vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. Any asphalt substances used onsite will be applied according to the

manufacturer's recommendations.

Fertilizers:

- Shall be stored in a secured area undercover.
- Fertilizers used will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to limit exposure to storm water. Stored fertilizers will be kept covered. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.
- Any overcast fertilizer on grasses or paved areas shall be cleaned off.

Paints:

- All containers will be tightly sealed and stored in a secure covered area when not required for use. Excess paint will not be discharged to the storm or sanitary sewer systems but will be properly disposed of according to manufacturer's instructions and State and local regulations.

Spill Prevention and Response Plans

In addition to the good housekeeping and material management practices discussed in the previous sections, the following practices will be followed for spill prevention and cleanup:

<b>Spill Control Practices</b>	
<input checked="" type="checkbox"/>	Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
<input checked="" type="checkbox"/>	Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. Equipment and materials will include but not be limited to brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
<input checked="" type="checkbox"/>	All spills will be cleaned up immediately after discovery.
<input checked="" type="checkbox"/>	The spill area will be kept ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
<input checked="" type="checkbox"/>	Spills of toxic or hazardous material will be reported to the appropriate State or local government agency, regardless of the size.
<input checked="" type="checkbox"/>	The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.
<input checked="" type="checkbox"/>	The Operator or Operator's representative will be the spill prevention and cleanup coordinator. He/she will designate at least three other site personnel who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel will be posted onsite.

Maintenance of Lawns, Gardens, and other Landscaped Areas:

- Inspect lawns, gardens, and other landscaped areas for signs of erosions, bare spots, diseased plant species, and overall vegetation health.
- Regularly mow the grassed areas as required. Refer to the Schedule for Inspection and Routine Maintenance of Stormwater System (above) for specific mowing and maintenance requirements of the Stormwater system.

- Remove and Replant, reseed, re-mulch, and prune as required to maintain healthy vegetation.

Pet Waste Management:

In no case, should pet wastes be allowed to discharge into the stormwater system.

Operations and Maintenance of Septic Systems:

See SWPPP for construction phase sanitary waste provisions.

Solid Waste Management:

- All waste materials will be collected and stored in a securely covered (lidded or tarped, or enclosed within the building) metal dumpster rented from a licensed hauler or equivalent waste receptacle.
- The dumpster/waste receptacle will meet all local and State solid waste management regulations.
- All trash and debris from the site will be deposited in the dumpster and/or waste receptacle.
- The dumpster and/or waste receptacle will be emptied a minimum of once per week or more often if necessary, and the trash will be hauled to a state approved landfill. No waste materials will be buried onsite.
- All personnel will be instructed regarding the correct procedure for waste disposal. Notices stating these practices will be posted onsite. The Operator who manages the day-to-day site operations will be responsible for seeing that these procedures are followed.

Snow Disposal and Plowing (as relative to Wetland resource Areas):

- Snow shall not be plowed or stored into the wetland resource areas or within any the stormwater system (i.e. rain garden, Water Quality Swale, etc.).
- Store snow in a designated onsite location or properly disposed at an offsite location.
- Minimize the use of salt/sand or other deicing chemicals.

Winter Road Salt and/or Sand Use and Storage:

- Preferably, salt and deicing chemicals for the driveway will be stored off-site and only employed when necessary.
- Any salt and deicing chemicals necessarily stored onsite shall be stored in a proper container or structure designed to prevent the generation and escape of contaminated runoff or leachate.
- Storage design shall apply the following BMP components: A flat site, slightly raised above surrounding grades, adequate space, an impervious/paved storage pad, proper roofing, and runoff collection/containment.

Prevention of Illicit Discharges to the Stormwater Management System:

- All non-stormwater discharges must be reported and documented as illicit discharges. An Illicit Discharge Compliance Statement (see example in Attachment B) must be submitted to the issuing authority verifying that no illicit discharges exist on the site. Pollution prevention measures shall be implemented to prevent illicit discharges to the stormwater management system, including wastewater discharges and discharges of stormwater contaminated by contact with the process wastes, raw materials, toxic pollutants, hazardous substances, oil, or grease.
- Illicit discharges do not include discharges from the following activities or facilities: firefighting, water line flushing, landscape irrigation, uncontaminated groundwater, potable water sources, foundation drains, air conditioning condensation, footing drains, individual resident car washing, flows from riparian habitats and wetlands, dechlorinated water from swimming pools, water used for street washing, and water used to clean residential buildings without detergents.
- A scaled plan of the site must accompany the Illicit Discharge Compliance Statement identifying the location of any systems for conveying stormwater on the site and showing that these systems do not allow the entry of any illicit discharges into the stormwater management system. The plan shall also show the locations of any systems for conveying wastewater and/or groundwater on the site and show that there are no connections between these systems and the stormwater management systems. This

information shall be included with the plans submitted with the Notice of Intent and Operation and Maintenance Plan or included as a separate plan with the Illicit Discharge Compliance Statement.

- If applicable, where illicit discharges have been identified, the actions taken to identify and remove the illicit discharges must be documented and shown on the plan.

#### Training Requirements for Staff and Personnel Involved with Implementing the Long Term Pollution Prevention Plan:

- Staff and personnel involved with implementing this plan shall be trained to understand this Operation and Maintenance plan, the SWPPP, emergency procedures, Good Housekeeping BMPs, stormwater BMPs, sedimentation and erosion control measures, and the non-stormwater BMPs.
- Refer to the Stormwater Management Fact Sheet (Attachment D) and the SWPPP for further information and training logs.

#### Emergency Contact List

- See Attachment E for Emergency Contacts.

#### Comprehensive Site Evaluation

A comprehensive site inspection shall be performed on an annual basis. The scope of the comprehensive site inspection should encompass all of the noted possible sources of pollution and activities noted. The Operator should use the attached form(s) (Attachment D) for the inspection process and note the date, time, and an account of the circumstances leading up to any found contaminants. If the release is a reportable quantity of oil or other controlled substance, the Operator shall notify all appropriate and applicable agencies.

The annual inspections should take place in the spring, immediately following a rainfall event, in order to get the most representative inspections. The inspections should involve visually inspecting the site and the surrounding areas. The results of the inspection should be noted on the forms provided. Any noted contaminants should be recorded on the forms and acted upon as noted below.

Also, as a result of good housekeeping measures throughout the course of the year, the Operator shall determine what, if any, additional measures or changes need to be made to the Operation and Maintenance Plan.

#### Records Keeping and Actions Requirements

All comprehensive site analysis shall be logged and kept with the Operation and Maintenance Plan. Any other notes and/or issues arising on a daily basis shall be logged and kept with the Operation and Maintenance Plan.

If there is a “reportable incident” the Operator shall log the incident in the Operation and Maintenance Plan and revise the Operation and Maintenance Plan within 14 days of the noted incident. The Operation and Maintenance Plan revision should be designed to alleviate the source of contamination and reduce the noted pollutants. After the Operation and Maintenance Plan revision, the pollution source noted shall be inspected and logged again during the next rainfall event. If the suspected contaminant is not present, the Operator shall log this information and pay close attention to this area during the next annual inspection. If the contaminant is still present, the Operation and Maintenance Plan shall be revised again, within 14 days, and re-evaluated during the next rainfall event until the contaminant is satisfactorily reduced or eliminated, i.e. not present during the subsequent inspection.

A reportable incident means any incident that is noted as having a Physical Observation other than “none” (on the Visual Inspection Worksheet) and/or any noted pollution sources recognized during the course of operations. Daily good housekeeping such as sweeping and picking up stray trash/paper/plastic materials does not constitute a reportable incident.

Records must be kept with the Operation and Maintenance Plan documenting the status and effectiveness of plan implementation. At a minimum, records must address the results of the annual evaluations, routine maintenance and inspections, spills, monitoring, and maintenance activities.

#### Facilities Maintenance

Maintenance involves the regular operation, inspection, and replacement or repair of systems and BMPs.

Storm water BMP reviews should be performed throughout the year, per the above schedule, in addition to the required annual inspections. Any potential problems or maintenance requirements should be reported and documented. All BMPs identified in the Operation and Maintenance Plan must be maintained in effective operating condition.

As noted, good housekeeping is a key component of the Operation and Maintenance Plan. Good housekeeping includes all of the Pollution prevention measures noted under this Operation and Maintenance Plan and all subsequent measure implemented throughout operations. The facilities maintenance plan will quickly respond to noted deficiencies as well as provide preventative maintenance where applicable.

#### Disclaimer

This Operation and Maintenance Plan is intended to satisfy the requirements under the Massachusetts Stormwater Handbook only and does not cover the exact steps required for materials handling and reporting as established under local, state and federal codes and permits. This Operation and Maintenance Plan does not alleviate the owner from complying with any and all other requirements governing the operation and maintenance of a facility of this nature.

Owner, Operator, Contractor(s), and other personnel who perform work on the site should become familiar with the location and characteristics of the wetland resource areas, and of the requirements under the applicable federal, state, and local laws and regulations.

This Operation and Maintenance Plan is an essential component of the Stormwater Management System for the Project. The Owner is ultimately responsible for assuring that the Stormwater System is operated and maintained in accordance with all applicable permits and approvals, including, but not limited to Massachusetts Wetlands Protection Act permits, Massachusetts Stormwater Management Policy, Massachusetts Groundwater or Surface Water Discharge Permits, and U.S.E.P.A. NPDES Stormwater Discharge Permit. Copies of all applicable permits and plans should be attached to this Operation and Maintenance Plan. All Permit requirements are incorporated by reference into this Operation and Maintenance Plan whether they are attached or not.



**Attachment A**  
**Policy #BWP-94-092: Reuse & Disposal of Street Sweepings**

This Policy provides guidance on Massachusetts Department of Environmental Protection requirements, standards, and approvals for handling, reuse and disposal of street sweepings.

By Carl F. Dierker,  
Assistant Commissioner, Bureau of Waste Prevention  
[Signature on Original]

### **1. Policy Statement & Scope**

This Policy explains Department of Environmental Protection (MassDEP) requirements for managing street sweepings. Street sweepings are solid waste subject to the Massachusetts solid waste regulations. The options for managing street sweepings are as follows.

1. Use the street sweepings in accordance with the preapproved uses described in Section 4 of this policy.
2. Use the street sweepings for a beneficial use after obtaining prior approval from MassDEP under the provisions of the solid waste regulations, 310 CMR 19.060, Beneficial Use of Solid Wastes.
3. Dispose of street sweepings at a permitted solid waste landfill.

The provisions and requirements for managing street sweepings under these options are the subject of this policy.

### **2. Applicability**

This policy applies to the reuse or disposal of street sweepings that are generated in the ordinary and customary maintenance of roadways. The policy does not apply to catch basin cleanings or street sweepings mixed with catch basin cleanings or other wastes. The policy does not apply to the material generated as the result of the cleanup of an oil or hazardous material spill.

Street sweepings are not exempt from the Hazardous Waste Regulations, 310 CMR 30.000, and must be handled as hazardous waste when they exhibit any of the characteristics of a hazardous waste. If there is no evidence of unusual contamination, MassDEP does not require street sweepings to be routinely tested, but, as is the case with any waste, the generator has the ultimate responsibility for determining whether the waste is a hazardous waste.

### **3. Definitions**

*Department* or means the Massachusetts Department of Environmental Protection (MassDEP).

*Public Way* means the strip of land over and under a publicly owned, paved road or highway and includes the publicly owned land adjacent to the road or highway.

*Street Sweepings* means materials consisting primarily of sand and soil generated during the routine cleaning of roadways but may also contain some leaves and other miscellaneous solid wastes collected during street sweeping. *Street sweepings* does not mean the material generated during the cleanup of a spill or material from other structures associated with a roadway such as catch basins.

*Urban center roads* means local roads in central commercial and retail business districts and industrial and manufacturing areas.

### **4. Pre-Approved Uses, Restrictions & Conditions**

This policy allows street sweepings to be used in several applications. No approval from MassDEP is required when the restrictions and conditions identified in this policy are adhered to. However, sweepings shall not be

used unless prior approval is obtained from the owner of the location where the sweepings are to be used.

#### **4.1. Use at Landfills**

Street sweepings may be used for daily cover at lined or unlined permitted solid waste landfills and need no prior MassDEP approval if the sweepings satisfy the requirements for daily cover material specified at 310 CMR 19.130(15).

#### **4.2. Use as Fill in Public Ways**

Street sweepings shall be used for fill in public ways without prior approval from MassDEP only when the following restrictions and conditions are observed:

- The sweepings have not been collected from Urban Center Roads (see definition);
- The sweepings are used under the road surface or as fill along the side of the road within the public way;
- The sweepings are not used in residential areas;
- The sweepings are kept above the level of the groundwater;
- The sweepings are not used in designated "No Salt Areas";
- The following definitions have been taken verbatim from the solid waste regulations and are repeated here for clarity in understanding this policy.
- The sweepings are not used within the 100 foot buffer zone of a wetland or within wetland resource areas including bordering vegetative wetlands and riverfront areas;
- The sweepings are not used within 500 feet of a ground or surface drinking water supply.

#### **4.3. Use As an Additive to Restricted Use Compost**

Street sweepings shall be used as an additive to compost without prior approval from MassDEP only when the following restrictions and conditions are observed:

- The sweepings have not been collected from Urban Center Roads (see definition);
- The compost is used only in public ways;
- The compost is not used in residential areas;
- The compost is kept above the level of the groundwater;
- The compost is not used in designated "No Salt Areas";
- The compost is not used within the 100 foot buffer zone of a wetland or within wetland resource areas including bordering vegetative wetlands and riverfront areas;
- The compost is not used within 500 feet of a ground or surface drinking water supply.

#### **5. Other Uses**

Any use not pre-approved in the preceding section requires prior MassDEP approval under the Beneficial Use provisions of the *Solid Waste Management Facility Regulations* at 310 CMR 19.060. A "Beneficial Use Determination" or BUD can be made only after the submission of an application characterizing the waste and describing the proposed beneficial use.

#### **6. Disposal**

While the beneficial use of street sweepings is strongly encouraged, MassDEP does not prohibit the disposal of street sweepings. Street sweepings may be disposed in either lined or unlined permitted solid waste landfills without prior approval from the Department.

#### **7. Handling**

##### **7.1. Collection of Street Sweepings**

Although MassDEP does not regulate the collection of street sweepings, collection practices should be compatible with intended uses. For example, sweepings from Urban Center Roads are not approved for the uses allowed for sweepings from other areas. Keeping sweepings from Urban Center Roads separate from

sweepings from other areas will make the full benefits of this policy available.

This policy does not cover sweepings known to be contaminated by spills, and such sweepings should be collected separately and kept segregated. Depending on the contamination and circumstances, the handling of contaminated sweepings may be governed by the Massachusetts Contingency Plan, 310 CMR 40, the Massachusetts Hazardous Waste Regulations, 310 CMR 30, the Massachusetts Site Assignment Regulations for Solid Waste Facilities, 310 CMR 16 or the Massachusetts Solid Waste Management Facility Regulations, 310 CMR 19.

## 7.2. Storage

Street sweepings shall be temporarily stored prior to use, only when the following conditions are satisfied:

- Storage must be at the site where the sweepings are generated (in the public way) or at a location, such as a DPW yard, that is under the control of the governmental entity which is doing the sweeping or has contracted for the sweeping;
- The sweepings shall be protected from wind and rain to the extent necessary to prevent dust, erosion and off-site migration;
- The sweepings shall not be stored within the 100 foot buffer zone of a wetland or within wetland resource areas including bordering vegetative wetlands and riverfront areas;
- The sweepings shall not be stored within 500 feet of a ground or surface drinking water supply;
- Storage shall incorporate good management practice and result in no public nuisance;
- Storage must be temporary. Street sweepings shall be used within one year of collection unless the MassDEP Regional Office in the region where the sweepings are stored grants a written extension. An extension may be granted when it is demonstrated that all storage conditions will continue to be satisfied and the stored sweepings will be put to a specific identified use prior to the expiration of the extension period.

## 7.3. Preparation Prior to Use

Solid waste, such as paper, auto parts and other trash, shall be removed from the sweepings prior to use. Leaves, twigs and other organic matter should also be removed when good engineering practice indicates this is necessary to produce a material that is suitable for the intended use.

## 8. Background

MassDEP has consistently classified street sweepings as solid waste subject to Massachusetts General Law Chapter 111, Section 150A and the Massachusetts Solid Waste Regulations (*Site Assignment Regulations for Solid Waste Facilities*, 310 CMR 16.00 and *Solid Waste Management Facility Regulations*, 310 CMR 19.000). There has been confusion among some in the regulated community about this classification.

Prior to the development of this policy, the options for handling street sweepings were limited to:

1. Disposal at a permitted solid waste landfill,
2. Use as cover at a permitted solid waste landfill or
3. Use in accordance with a Beneficial Use Determination (BUD). BUD decisions are made on a case-by-case basis and require the submittal of a formal application to MassDEP containing data showing the chemical composition of the street sweepings.

The simplest of these options was either to use the sweepings for landfill cover or to dispose of the sweepings at the local landfill. As many local landfills close, these options become less available to many communities. However, transporting sweepings to a distant landfill involves increased transportation costs and possibly payment of tipping fees.

To clarify the requirements and to provide simpler and less expensive alternatives for handling street sweepings, the Department undertook the development of this policy. Because useful studies of the chemical

composition of street sweepings could not be found in the literature, MassDEP solicited the help of municipalities and state agencies in conducting a study of the composition of street sweepings from various types of areas. The results showed that sweepings from all areas, except Urban Center Roads, were similar with the main constituents of concern being total petroleum hydrocarbons (TPH) and polynuclear aromatic hydrocarbons (PAHs). Very limited data from Urban Center Roads indicated that sweepings from these areas may be more contaminated than sweepings from other areas.

The test results indicate that sweepings may contain levels of contamination that are unsuitable for unrestricted use. However, except for sweepings from Urban Center Roads, the levels of contamination were consistent and low enough to allow the use of sweepings in restricted applications without requiring testing or pre-approval as long as certain conditions were met. Sweepings from urban areas were excluded from some pre-approved uses. This situation could change when more data are available from Urban Center Roads.

This policy makes it possible for municipalities, state agencies and other governmental entities to handle street sweepings in an environmentally sound manner with a minimum of paperwork and expense.

### **9. Additional Information**

For additional copies of this policy, permit application forms or other MassDEP documents, call any MassDEP Regional Office and ask for the Service Center or visit <http://www.mass.gov/dep>. The permit application numbers for Beneficial Use Determinations are BWP SW 39, 40, 41 and 42.

Copies of all Massachusetts regulations, including the solid waste regulations, may be purchased from the State House Bookstore, 617-727-2834. The solid waste regulations are:

310 CMR 16.000, *Site Assignment Regulations for Solid Waste Facilities*  
310 CMR 19.000, *Solid Waste Management Facility Regulations*

Questions about the Provisions of the Policy – If you have technical questions about the policy, please call any MassDEP office and ask to speak with a staff member about the provisions of the policy.

**Attachment B**  
**Illicit Discharge Compliance Statement**

***SAMPLE – SIGNED STATEMENT TO FOLLOW PENDING SALE OF PROPERTY***

Storm Water Discharges have been evaluated on behalf of the Applicant by Foresight Land Services to check for the presence of Non-Storm Water Sources. This evaluation was performed as visual field observations at the site-specific areas. At the time of the inspection on \_\_\_\_\_, there were not visible signs of non-storm water discharge.

*No Non-Storm water discharges have been identified and none are proposed in the construction plans.*

*As Applicant, I hereby agree that, if any Non-Storm Water Discharges are identified during the normal course of construction or subsequent operations on the property, they shall be recorded, measures implemented to abate the illicit discharge, and the Becket Conservation Commission shall be notified.*

Evaluation Date by Foresight Land Services, Inc.: \_\_\_\_\_

\_\_\_\_\_  
Signed (print and sign)  
Applicant:

\_\_\_\_\_  
Date

**Attachment C**  
**NOT APPLICABLE**

**Table LUHPPL: Best Management Practices for Land Uses with Higher Potential Pollutant Loads**

- Discharges from certain land uses with higher potential pollutant loads may be subject to additional requirements, including the need to obtain an individual or general discharge permit pursuant to the MA Clean Waters Act or Federal Clean Water Act.
- All proponents must implement source control and pollution prevention.
- All BMPs shall be designed in accordance with specifications and procedures in the Massachusetts Stormwater Handbook Volumes 2 and 3.
- The required water quality volume equals 1 inch times the total impervious area of the post-development site.
- Many land uses have the potential to generate higher potential pollutant loads of oil and grease. These land uses include, without limitation, industrial machinery and equipment and railroad equipment maintenance, log storage and sorting yards, aircraft maintenance areas, railroad yards, fueling stations, vehicle maintenance and repair, construction businesses, paving, heavy equipment storage and/or maintenance, the storage of petroleum products, high-intensity-use parking lots, and fleet storage areas. To treat the runoff from such land uses, the following BMPs must be used to pretreat the runoff prior to discharge to an infiltration structure: an oil grit separator, a sand filter, organic filter, filtering bioretention area or equivalent.
- 44% TSS removal is required prior to discharge to an infiltration device.
- Until they complete the STEP or TARP verification process outlined in Volume 2, proprietary BMPs may not be used as a terminal treatment device for runoff from land uses with higher potential pollutant loads. For the purpose of this requirement, subsurface structures, even those that have a storage chamber that has been manufactured are not proprietary BMPs, since the pretreatment occurs in the soil below the structure, not in the structure itself.

**Pretreatment**

	Deep Sump Catch Basin
	Oil Grit Separator
	Proprietary Separators - See Volume 2
	Sediment Forebays
	Vegetated Filter Strip ( <i>must be lined</i> )

**Treatment**

Sand Filters, Organic Filters, Proprietary Media Filters, Wet Basins, Filtering Bioretention Areas, and Extended Dry Detention Basins must be lined and sealed unless 44% of the TSS has been removed prior to discharge to the BMP.	Filtering Bioretention Areas including rain gardens
	Constructed Stormwater Wetlands
	Dry Water Quality Swales
	Extended Dry Detention Basins
	Gravel Wetlands
	Proprietary Media Filter. (Does not include catch basin inserts) (Proprietary Media Filters may be used for terminal treatment for runoff from land uses with higher potential pollutant loads, only if verified for such use by the TARP or STEP process. See Volume 2.)
	Sand /Organic Filters
	Wet Basins

**Infiltration**

	Exfiltrating Bioretention Areas including rain gardens
	Infiltration Basins
	Infiltration Trenches
	Leaching Catch Basins
	Subsurface Structures

**Attachment D**  
**Stormwater Management Fact Sheet – Employee Training**

United States  
Environmental Protection  
Agency

Office of Water  
Washington, D.C.

EPA 832-F-99-010  
September 1999



# Storm Water Management Fact Sheet Employee Training

## DESCRIPTION

In-house employee training programs are established to teach employees about storm water management, potential sources of contaminants, and Best Management Practices (BMPs). Employee training programs should instill all personnel with a thorough understanding of their Storm Water Pollution Prevention Plan (SWPPP), including BMPs, processes and materials they are working with, safety hazards, practices for preventing discharges, and procedures for responding quickly and properly to toxic and hazardous material incidents.

## APPLICABILITY

Typically, most industrial facilities have employee training programs. Usually these address such areas as health and safety training and fire protection. Training on storm water management and BMPs can be incorporated into these programs.

Employees can be taught through 1) posters, employee meetings, courses, and bulletin boards about storm water management, potential contaminant sources, and prevention of contamination in surface water runoff, and 2) field training programs that show areas of potential storm water contamination and associated pollutants, followed by a discussion of site-specific BMPs by trained personnel.

## ADVANTAGES AND DISADVANTAGES

Advantages of an employee training program are that the program can be a low-cost and easily implementable storm water management BMP.

The program can be standardized and repeated as necessary, both to train new employees and to keep its objectives fresh in the minds of more senior employees. A training program is also flexible and can be adapted as a facility's storm water management needs change over time.

Obstacles to an employee training program include:

- Lack of commitment from senior management.
- Lack of employee motivation.
- Lack of incentive to become involved in BMP implementation.

## KEY PROGRAM COMPONENTS

Specific design criteria for implementing an employee training program include:

- Ensuring strong commitment and periodic input from senior management.
- Communicating frequently to ensure adequate understanding of SWPPP goals and objectives.
- Utilizing experience from past spills to prevent future spills.
- Making employees aware of BMP monitoring and spill reporting procedures.
- Developing operating manuals and standard procedures.

- Implementing spill drills.

## IMPLEMENTATION

An employee training program should be an on-going, yearly process. Meetings about SWPPPs should be held at least annually, possibly in conjunction with other training programs. Figure 1 illustrates a sample employee training worksheet. Worksheets such as these can be used to plan and track employee training programs. Program performance depends on employees' participation and on senior management's commitment to reducing point and nonpoint sources of pollution; therefore, performance will vary among facilities. To be effective these programs need senior management's support

## COSTS

Costs for implementing an employee training program are highly variable. Most storm water training program costs will be directly related to labor and associated overhead costs. Trainers can reduce costs by using free educational materials available on the subject of storm water quality.

Figure 2 can be used to estimate the annual costs for an in-house training program. Table 1 provides an example of how this worksheet can be used to estimate annual costs.

## REFERENCES

1. U.S. EPA, 1979. *NPDES BMP Guidance Document*.
2. U.S. EPA, Pre-print, 1992. *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices*. EPA 832-R-92-006.

## ADDITIONAL INFORMATION

Center for Watershed Protection  
Tom Schueler  
8391 Main Street  
Ellicott City, MD 21043

City of Coral Gables, Florida

Tim Clark  
285 Aragon Avenue  
Coral Gables, FL 33134

Hillsborough County, Florida  
Jose Rodriguez  
Hillsborough County Public Works  
601 East Kennedy Boulevard  
Tampa, FL 33601

King County, Washington  
Dave Hancock  
Department of Natural Resources, Water and Land  
Resources Division, Drainage Services Section  
700 5<sup>th</sup> Avenue, Suite 2200  
Seattle, WA 98104

Mitchell Training, Inc.  
Barbara Mitchell  
5414 SW 177<sup>th</sup> Street  
Archer, FL 32618

Southeastern Wisconsin Regional Planning  
Commission  
Bob Biebel  
916 N. East Avenue, P.O. Box 1607  
Waukesha, WI 53187

The mention of trade names or commercial products does not constitute endorsement or recommendation for the use by the U.S. Environmental Protection Agency.

For more information contact:

Municipal Technology Branch  
U.S. EPA  
Mail Code 4204  
401 M St., S.W.  
Washington, D.C., 20460





EMPLOYEE TRAINING		Worksheet Completed by: _____ Title: _____ Date: _____	
Instructions: Describe the employee training program for your facility below. The program should, at a minimum, address spill prevention and response, good housekeeping, and material management practices. Provide a schedule for the training program and list the employees who attend the training sessions.			
Training Topics	Brief Description of Training Program/Materials (e.g., film, newsletter, course)	Schedule for Training (list dates)	Participants
Spill Prevention and Response			
Good Housekeeping			
Material Management Practices			
Other Topics			

Source: U. S. EPA, 1992.

**FIGURE 1 SAMPLE WORKSHEET FOR TRACKING EMPLOYEE TRAINING**

Title	Number	Average Hourly Rate (\$)	Overhead* Multiplier	Estimated Yearly Hours on SW Training	Estimated Annual Cost (\$)
Stormwater Engineer	1	x 15	x 2.0	x 20	= 600
Plant Management	5	x 20	x 2.0	x 10	= 2,000
Plant Employees	100	x 10	x 2.0	x 5	= <u>10,000</u>
Total Estimated Annual Cost \$12,600					

\*Note: Defined as a multiplier (typically ranging between 1 and 3) that takes into account those costs associated with costs other than salary of employing a person, expenses, etc

**TABLE 1 EXAMPLE OF ANNUAL EMPLOYEE TRAINING COSTS**

Title	Number	Average Hourly Rate (\$)	Overhead Multiplier	Estimated Yearly Hours on SW Training	Estimated Annual Cost (\$)
_____	_____	x _____	x _____	x _____	= _____ (A)
_____	_____	x _____	x _____	x _____	= _____ (B)
_____	_____	x _____	x _____	x _____	= _____ (C)
_____	_____	x _____	x _____	x _____	= _____ (D)
Total Estimated Annual Cost (Sum of A+B+C+D) _____					

Source: U.S. EPA, 1992.

**FIGURE 2 SAMPLE ANNUAL TRAINING COST WORKSHEET**

**Attachment E**  
**List of Emergency Contacts**

**Owner/Operator(s):**

Company or Organization Name: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip Code: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

E-mail: \_\_\_\_\_

**Emergency 24-Hour Contact:**

Company or Organization Name: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip Code: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

E-mail: \_\_\_\_\_

**Becket Police Department:**Telephone Number: (413) 623-6010 – For emergencies dial 911**This Operation and Maintenance Plan was Prepared by:**Company or Organization Name: Foresight Land Services, Inc.Name: Steven A. Mack, P.E.Address: 1496 West Housatonic StreetCity, State, Zip Code: Pittsfield, MA 01201Telephone Number: (413) 499-1560Fax Number: (413) 499-3307E-mail: [smack@foresightland.com](mailto:smack@foresightland.com)

**Attachment F**  
**Visual Inspection Worksheet**

Outfall(Point) # \_\_\_\_\_ Photograph # \_\_\_\_\_ Date: \_\_\_\_\_

Location: \_\_\_\_\_

Weather: air temp: \_\_\_\_\_°F      rain: Y   N      sunny      cloudy

Outfall flow rate estimate: \_\_\_\_\_gal/min

Known industrial or commercial uses in drainage area?      Y   N

Describe: \_\_\_\_\_

**PHYSICAL OBSERVATIONS**

**Odor:**   none   sewage   sulfide   oil   gas   rancid-sour   other: \_\_\_\_\_

**Color:**   none   yellow   brown   green   gray   other: \_\_\_\_\_

**Turbidity:**   none   cloudy   opaque

**Floatables:**   none   petroleum sheen   sewage   other: \_\_\_\_\_ (collect sample)

**Deposits/stains:**   none   sediment   oily   describe: \_\_\_\_\_ (collect sample)

**Vegetation conditions:**   normal   excessive growth   inhibited growth

extent: \_\_\_\_\_

**Damage to outfall structures:**

identify structure: \_\_\_\_\_

damage: none / concrete cracking / concrete spalling / peeling paint / corrosion

other damage: \_\_\_\_\_

extent: \_\_\_\_\_

(USEPA)



# Checklist for Stormwater Report

## A. Introduction

**Important:** When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the [Massachusetts Stormwater Handbook](#). The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.<sup>1</sup> This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8<sup>2</sup>
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

<sup>1</sup> The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

<sup>2</sup> For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.



# Checklist for Stormwater Report

---

## B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

*Note:* Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

---

### Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature

---

Signature and Date

---

### Checklist

**Project Type:** Is the application for new development, redevelopment, or a mix of new and redevelopment?

- ☒ New development
- ☐ Redevelopment
- ☐ Mix of New Development and Redevelopment



# Checklist for Stormwater Report

---

## Checklist (continued)

**LID Measures:** Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- ☐ No disturbance to any Wetland Resource Areas
- ☒ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☐ Reduced Impervious Area (Redevelopment Only)
- ☒ Minimizing disturbance to existing trees and shrubs
- ☐ LID Site Design Credit Requested:
  - ☐ Credit 1
  - ☐ Credit 2
  - ☐ Credit 3
- ☐ Use of "country drainage" versus curb and gutter conveyance and pipe
- ☒ Bioretention Cells (includes Rain Gardens)
- ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- ☐ Treebox Filter
- ☒ Water Quality Swale
- ☒ Grass Channel
- ☐ Green Roof
- ☒ Other (describe): Rainwater collection and reuse/recycling, Porous pavement, & Grass on gravel parking

## Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
- ☒ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- ☒ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.





# Checklist for Stormwater Report

---

## Checklist (continued)

### Standard 2: Peak Rate Attenuation

- ☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- ☐ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- ☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

### Standard 3: Recharge

- ☐ Soil Analysis provided.
- ☒ Required Recharge Volume calculation provided.
- ☐ Required Recharge volume reduced through use of the LID site Design Credits.
- ☒ Sizing the infiltration, BMPs is based on the following method: Check the method used.
  - ☒ Static
  - ☐ Simple Dynamic
  - ☐ Dynamic Field<sup>1</sup>
- ☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.
- ☒ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- ☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- ☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
  - ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
  - ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
  - ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
  - ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- ☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- ☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

---

<sup>1</sup> 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



# Checklist for Stormwater Report

---

## Checklist (continued)

### Standard 3: Recharge (continued)

- ☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- ☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

### Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
  - Provisions for storing materials and waste products inside or under cover;
  - Vehicle washing controls;
  - Requirements for routine inspections and maintenance of stormwater BMPs;
  - Spill prevention and response plans;
  - Provisions for maintenance of lawns, gardens, and other landscaped areas;
  - Requirements for storage and use of fertilizers, herbicides, and pesticides;
  - Pet waste management provisions;
  - Provisions for operation and management of septic systems;
  - Provisions for solid waste management;
  - Snow disposal and plowing plans relative to Wetland Resource Areas;
  - Winter Road Salt and/or Sand Use and Storage restrictions;
  - Street sweeping schedules;
  - Provisions for prevention of illicit discharges to the stormwater management system;
  - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
  - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
  - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- ☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
  - ☐ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
    - ☐ is within the Zone II or Interim Wellhead Protection Area
    - ☐ is near or to other critical areas
    - ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
    - ☐ involves runoff from land uses with higher potential pollutant loads.
  - ☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.
  - ☒ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.



# Checklist for Stormwater Report

---

## Checklist (continued)

### Standard 4: Water Quality (continued)

- ☒ The BMP is sized (and calculations provided) based on:
  - ☒ The ½" or 1" Water Quality Volume or
  - ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- ☐ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- ☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

### Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- ☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- ☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted **prior to** the discharge of stormwater to the post-construction stormwater BMPs.
- ☐ The NPDES Multi-Sector General Permit does **not** cover the land use.
- ☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- ☐ All exposure has been eliminated.
- ☐ All exposure has **not** been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- ☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

### Standard 6: Critical Areas

- ☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- ☐ Critical areas and BMPs are identified in the Stormwater Report.



# Checklist for Stormwater Report

---

## Checklist (continued)

### Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- ☐ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
  - ☐ Limited Project
  - ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
  - ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
  - ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
  - ☐ Bike Path and/or Foot Path
  - ☐ Redevelopment Project
  - ☐ Redevelopment portion of mix of new and redevelopment.
- ☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- ☐ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

### Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
  - Construction Period Operation and Maintenance Plan;
  - Names of Persons or Entity Responsible for Plan Compliance;
  - Construction Period Pollution Prevention Measures;
  - Erosion and Sedimentation Control Plan Drawings;
  - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
  - Vegetation Planning;
  - Site Development Plan;
  - Construction Sequencing Plan;
  - Sequencing of Erosion and Sedimentation Controls;
  - Operation and Maintenance of Erosion and Sedimentation Controls;
  - Inspection Schedule;
  - Maintenance Schedule;
  - Inspection and Maintenance Log Form.
- ☐ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



# Checklist for Stormwater Report

---

## Checklist (continued)

### Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

- ☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- ☐ The project is **not** covered by a NPDES Construction General Permit.
- ☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- ☒ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

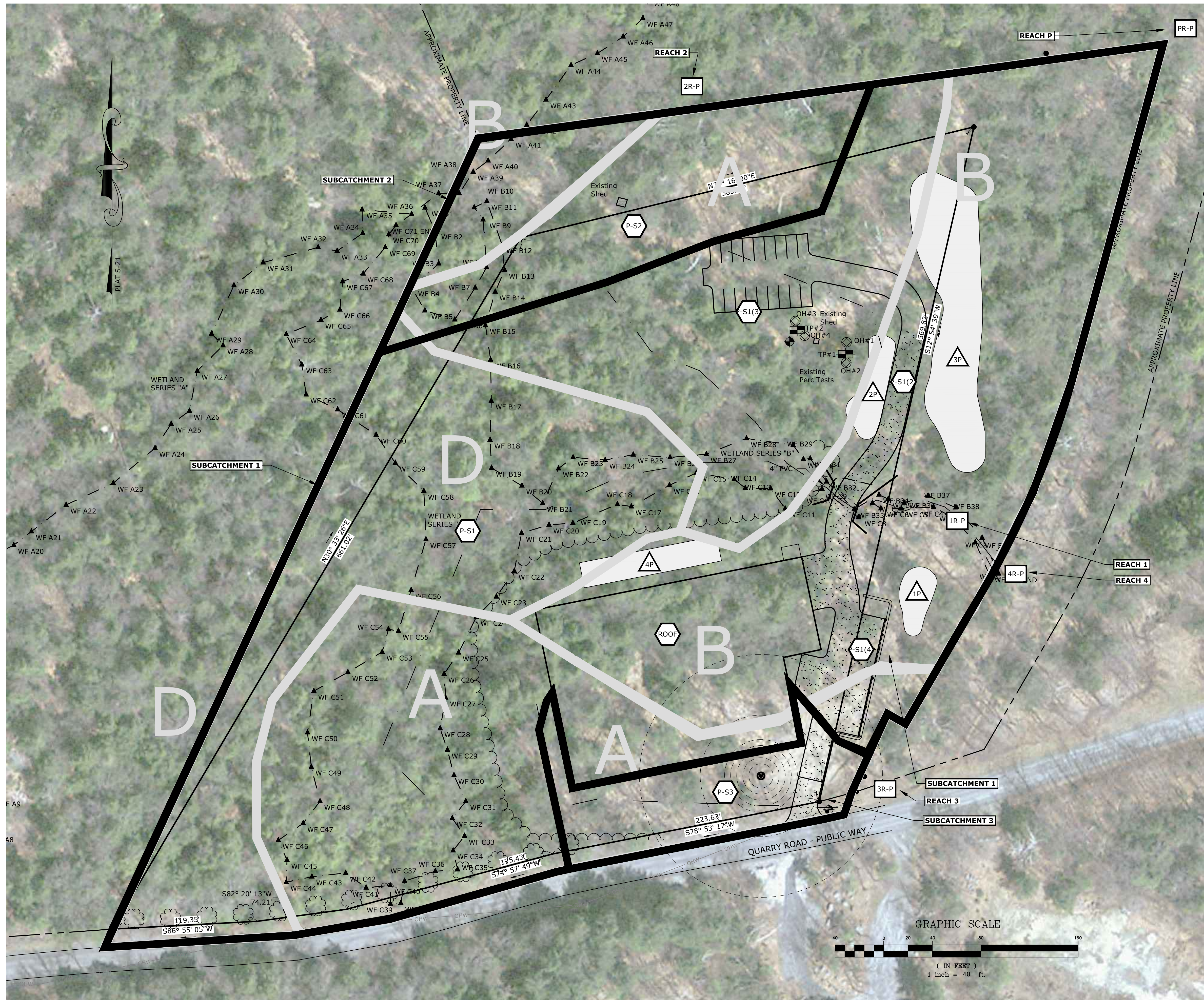
### Standard 9: Operation and Maintenance Plan

- ☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
  - ☒ Name of the stormwater management system owners;
  - ☒ Party responsible for operation and maintenance;
  - ☒ Schedule for implementation of routine and non-routine maintenance tasks;
  - ☒ Plan showing the location of all stormwater BMPs maintenance access areas;
  - ☐ Description and delineation of public safety features;
  - ☐ Estimated operation and maintenance budget; and
  - ☒ Operation and Maintenance Log Form.
- ☐ The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
  - ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
  - ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

### Standard 10: Prohibition of Illicit Discharges

- ☒ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- ☐ An Illicit Discharge Compliance Statement is attached;
- ☒ NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.





**LEGEND**

#R-P	REACH	—	DRAINAGE AREA
#S-P	SUBCATCHMENT	—	DRAINAGE FLOW PLAN
#P	STORMWATER CHAMBERS OR RAIN GARDEN	—	HYDROLOGIC SOIL GROUP

3/31/22	Issue for Notice of Intent Only		
1/25/22	Issue for Special Permit Supplement Only		
NO.	DATE	REVISION/ISSUE	BY
PROJECT TITLE			
PROPOSED SITE DRAINAGE AREA PLAN			
PROJECT TITLE			
TETRAHYDRA AGTEK LLC			
509 Quarry Road Becket, MA.			
PROJECT NO. E2988			
SCALE AS NOTED			
DATE 1/25/22			
DESIGNED BY SAM			
DRAWN BY DMW			
CHECKED BY			
SHEET NO. C-2A			
OF SHEETS			
FORESIGHT LAND SERVICES, INC. 1496 WEST HOUSATONIC STREET - PITTSFIELD, MA 01201 TEL (413) 499-1560 FAX (413) 499-3307 WWW.FORESIGHTLAND.COM			
ENGINEERING SURVEYING PLANNING			
E298802(2)			