

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 Number

Document Transaction Number

Leicester

City/Town

Important:

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



Note:
Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

0 Burncoat Lane

a. Street Address

Leicester

b. City/Town

01524

c. Zip Code

Latitude and Longitude:

42.235407

d. Latitude

-71.945939

e. Longitude

27A

f. Assessors Map/Plat Number

F1/0

g. Parcel /Lot Number

2. Applicant:

Robert

a. First Name

Dirsa

b. Last Name

Burncoat Pond Watershed District

c. Organization

45 Burncoat Lane

d. Street Address

Leicester

e. City/Town

MA

f. State

01524

g. Zip Code

(508) 735-2184

h. Phone Number

N/A

i. Fax Number

bdirsa@dcscorp.com

j. Email Address

3. Property owner (required if different from applicant): ☐ Check if more than one owner

a. First Name

b. Last Name

c. Organization

d. Street Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email address

4. Representative (if any):

Christopher

a. First Name

Cullen

b. Last Name

Fuss & O'Neill, Inc.

c. Company

146 Hartford Road

d. Street Address

Manchester

e. City/Town

CT

f. State

06040

g. Zip Code

(860) 646-2469

x5398

h. Phone Number

N/A

i. Fax Number

ccullen@fando.com

j. Email address

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

Exempt

a. Total Fee Paid

N/A

b. State Fee Paid

N/A

c. City/Town Fee Paid



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A. General Information (continued)

6. General Project Description:

General dam repairs including repairs and improvements to the downstream right toe of the dam with known seepage, replacement of capstones on the upstream and downstream walls of the dam, and minor concrete surface repairs in the vicinity of the low-level outlet gatehouse and training walls.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

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

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

1. ☒ Yes ☐ No If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

310 CMR 10.53 (3)(i) "for the maintenance, repair and improvement...of structures, including dams..which existed on the effective date of 310 CMR 10.51 through 10.60 (April 1, 1983)"

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR 10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Worcester

a. County

N/A

b. Certificate # (if registered land)

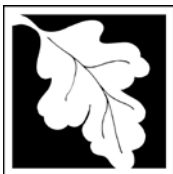
c. Book

d. Page Number

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

- ☒ Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
- ☒ Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.



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

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input checked="" type="checkbox"/> Bank	80 1. linear feet	80 2. linear feet
b. <input checked="" type="checkbox"/> Bordering Vegetated Wetland	866 1. square feet	128 2. square feet
c. <input checked="" type="checkbox"/> Land Under Waterbodies and Waterways	420 (Burncoat Brook only, temporary stream crossing) 0 3. cubic yards dredged	420 2. square feet

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input checked="" type="checkbox"/> Bordering Land Subject to Flooding	866 1. square feet 0 (Matching existing grade) 3. cubic feet of flood storage lost	128 2. square feet 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. <input checked="" type="checkbox"/> Riverfront Area	Burncoat Pond/Burncoat Brook (inland) 1. Name of Waterway (if available) - specify coastal or inland	

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: 18,000
square feet

4. Proposed alteration of the Riverfront Area:

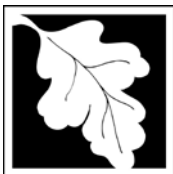
<u>866</u> a. total square feet	<u>866</u> b. square feet within 100 ft.	<u>0</u> c. square feet between 100 ft. and 200 ft.
------------------------------------	---	--

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

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☒ Yes ☐ No

3. ☐ Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Note: for coastal riverfront areas, please complete **Section B.2.f.** above.



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

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users:
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	1. square feet 2. cubic yards dredged	
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. <input type="checkbox"/> Coastal Dunes	1. square feet	2. cubic yards dune nourishment
	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. <input type="checkbox"/> Coastal Banks	1. linear feet	
g. <input type="checkbox"/> Rocky Intertidal Shores	1. square feet	
h. <input type="checkbox"/> Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
i. <input type="checkbox"/> Land Under Salt Ponds	1. square feet 2. cubic yards dredged	
j. <input type="checkbox"/> Land Containing Shellfish	1. square feet	
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above 1. cubic yards dredged	
l. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	1. square feet	

4. ☐ Restoration/Enhancement

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

5. ☒ Project Involves Stream Crossings

1 (temporary)

0

a. number of new stream crossings

b. number of replacement stream crossings



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C. Other Applicable Standards and Requirements

- ☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

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 and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

- 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 _____

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

- c. Submit Supplemental Information for Endangered Species Review*

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

2. ☐ Project plans for entire project site, including wetland resource areas and areas outside of wetlands 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

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/>). Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



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C. Other Applicable Standards and Requirements (cont'd)

- (c) ☐ MESA filing fee (fee information available at http://www.mass.gov/dfwele/dfw/nhESP/regulatory_review/menta/menta_fee_schedule.htm).
Make check payable to "Commonwealth of Massachusetts - NHESP" 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
- (f) 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/dfwele/dfw/nhESP/regulatory_review/menta/menta_exemptions.htm; 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 # _____ b. Date submitted to NHESP
3. ☐ Separate MESA review completed.
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.
3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?
- a. ☒ Not applicable – project is in inland resource area only b. ☐ Yes ☐ No

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

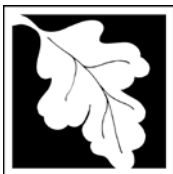
South Shore - Cohasset to Rhode Island border, and the Cape & Islands:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
1213 Purchase Street – 3rd Floor
New Bedford, MA 02740-6694
Email: DMF.EnvReview-South@state.ma.us

North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: DMF.EnvReview-North@state.ma.us

Also if yes, the project 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.



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Online Users:
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C. Other Applicable Standards and Requirements (cont'd)

4. 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 MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.
- b. ACEC
5. 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
6. 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
7. 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. Check why the project is exempt:
1. ☐ Single-family house
 2. ☐ Emergency road repair
 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

- ☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

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.

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.



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Bureau of Resource Protection - Wetlands

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D. Additional Information (cont'd)

3. ☒ Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), 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.

Burncoat Pond Dam Repairs (Plan Set)

a. Plan Title

Shawn King

b. Prepared By

October 24, 2017

d. Final Revision Date

Philip E. Forzley

c. Signed and Stamped by

As noted on plans

e. Scale

f. Additional Plan or Document Title

g. Date

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.

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

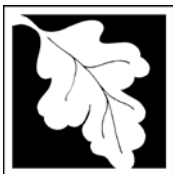
3. Check date

4. State Check Number

5. Check date

6. Payor name on check: First Name

7. Payor name on check: Last Name



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

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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.

1. Signature of Applicant

2. Date

3. Signature of Property Owner (if different)

4. Date

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 any part of Section C, Item 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
NOI Wetland Fee Transmittal Form
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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



A. Applicant Information

1. Location of Project:

0 Burncoat Lane

a. Street Address

Leicester

b. City/Town

c. Check number

d. Fee amount

2. Applicant Mailing Address:

Robert

a. First Name

Dirsa

b. Last Name

Burncoat Pond Watershed District

c. Organization

45 Burncoat Lane

d. Mailing Address

Leicester

e. City/Town

MA

f. State

01524

g. Zip Code

(508) 735-2184

h. Phone Number

N/A

i. Fax Number

bdirsa@dcscorp.com

j. Email Address

3. Property Owner (if different):

a. First Name

b. Last Name

c. Organization

d. Mailing Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email Address

B. Fees

Fee should be calculated using the following process & worksheet. **Please see Instructions before filling out worksheet.**

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract \$12.50. To calculate the city/town share of the fee, divide the total fee in half and add \$12.50.

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).



Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Category 4b - Dam Work	1.5	\$1,450.00	\$2,175.00
Step 5/Total Project Fee:			\$2,175.00
Step 6/Fee Payments:			
Total Project Fee:			Exempt
			a. Total Fee from Step 5
State share of filing Fee:			N/A
			b. 1/2 Total Fee less \$12.50
City/Town share of filling Fee:			N/A
			c. 1/2 Total Fee plus \$12.50

a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

noifeetf.doc • Wetland Fee Transmittal Form • rev. 10/11

**Notice of Intent and Application for Permit
Burncoat Pond Dam Repairs**
Leicester, Massachusetts

Burncoat Pond Watershed District

October 24, 2017



FUSS & O'NEILL

146 Hartford Road
Manchester, CT 06040

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Notice of Intent Burncoat Pond Dam Repairs

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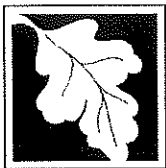
Notice of Intent Burncoat Pond Dam Repairs

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3 Watershed Map	
4 Assessor's Map	

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B Site Photographs	
C Abutters List	
D Inland Resource Area Report	
E Threatened and Endangered Species Documentation	

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A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

0 Burncoat Lane

a. Street Address

Leicester

b. City/Town

01524

c. Zip Code

42.235407

d. Latitude

-71.945939

e. Longitude

Latitude and Longitude:

27A

f. Assessors Map/Plat Number

F1/0

g. Parcel /Lot Number

2. Applicant:

Robert

a. First Name

Dirsa

b. Last Name

Burncoat Pond Watershed District

c. Organization

45 Burncoat Lane

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a. First Name

b. Last Name

c. Organization

d. Street Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email address

4. Representative (if any):

Christopher

a. First Name

Cullen

b. Last Name

Fuss & O'Neill, Inc.

c. Company

146 Hartford Road

d. Street Address

Manchester

e. City/Town

CT

f. State

06040

g. Zip Code

(860) 646-2469

x5398

h. Phone Number

N/A

i. Fax Number

ccullen@fando.com

j. Email address

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

Exempt

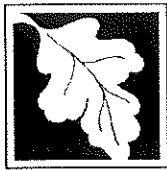
a. Total Fee Paid

N/A

b. State Fee Paid

N/A

c. City/Town Fee Paid



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 Number

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A. General Information (continued)

6. General Project Description:

General dam repairs including repairs and improvements to the downstream right toe of the dam with known seepage, replacement of capstones on the upstream and downstream walls of the dam, and minor concrete surface repairs in the vicinity of the low-level outlet gatehouse and training walls.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

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

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

1. ☒ Yes ☐ No If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

310 CMR 10.53 (3)(i) "for the maintenance, repair and improvement...of structures, including dams...which existed on the effective date of 310 CMR 10.51 through 10.60 (April 1, 1983)"

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR 10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Worcester

a. County

N/A

b. Certificate # (if registered land)

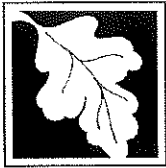
c. Book

d. Page Number

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

1. ☒ Buffer Zone Only – 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).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.



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

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input checked="" type="checkbox"/> Bank	80 1. linear feet	80 2. linear feet
b. <input checked="" type="checkbox"/> Bordering Vegetated Wetland	866 1. square feet	128 2. square feet
c. <input checked="" type="checkbox"/> Land Under Waterbodies and Waterways	420 (Burncoat Brook only, temporary stream crossing) 0 3. cubic yards dredged	420 2. square feet

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input checked="" type="checkbox"/> Bordering Land Subject to Flooding	866 1. square feet 0 (Matching existing grade) 3. cubic feet of flood storage lost	128 2. square feet 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. <input checked="" type="checkbox"/> Riverfront Area	Burncoat Pond/Burncoat Brook (inland) 1. Name of Waterway (if available) - specify coastal or inland	

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: 18,000 square feet

4. Proposed alteration of the Riverfront Area:

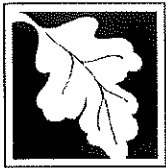
866	866	0
a. total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.

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

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☒ Yes ☐ No

3. ☐ Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Note: for coastal riverfront areas, please complete **Section B.2.f.** above.



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

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users:
Include your
document
transaction
number
(provided on your
receipt page)
with all
supplementary
information you
submit to the
Department.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	1. square feet 2. cubic yards dredged	
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. <input type="checkbox"/> Coastal Dunes	1. square feet	2. cubic yards dune nourishment
	Size of Proposed Alteration	Proposed Replacement (if any)
f. <input type="checkbox"/> Coastal Banks	1. linear feet	
g. <input type="checkbox"/> Rocky Intertidal Shores	1. square feet	
h. <input type="checkbox"/> Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
i. <input type="checkbox"/> Land Under Salt Ponds	1. square feet 2. cubic yards dredged	
j. <input type="checkbox"/> Land Containing Shellfish	1. square feet	
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above 1. cubic yards dredged	
l. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	1. square feet	

4. ☐ Restoration/Enhancement

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

5. ☒ Project Involves Stream Crossings

1 (temporary)

0

a. number of new stream crossings

b. number of replacement stream crossings



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C. Other Applicable Standards and Requirements

- ☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

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 and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

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

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); OR complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

c. Submit Supplemental Information for Endangered Species Review*

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

(a) within wetland Resource Area

percentage/acreage

(b) outside Resource Area

percentage/acreage

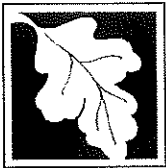
2. ☐ Assessor's Map or right-of-way plan of site

2. ☐ Project plans for entire project site, including wetland resource areas and areas outside of wetlands 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

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/>). Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



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C. Other Applicable Standards and Requirements (cont'd)

- (c) ☐ MESA filing fee (fee information available at http://www.mass.gov/dfwele/dfw/nhosp/regulatory_review/ mesa/ mesa_fee_schedule.htm).
Make check payable to "Commonwealth of Massachusetts - NHESP" 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
- (f) 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/dfwele/dfw/nhosp/regulatory_review/ mesa/ mesa_exemptions.htm; 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 # b. Date submitted to NHESP
3. ☐ Separate MESA review completed.
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.
3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?
- a. ☒ Not applicable – project is in inland resource area only b. ☐ Yes ☐ No

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

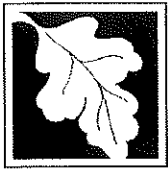
South Shore - Cohasset to Rhode Island border, and the Cape & Islands:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
1213 Purchase Street -- 3rd Floor
New Bedford, MA 02740-6694
Email: DMF.EnvReview-South@state.ma.us

North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: DMF.EnvReview-North@state.ma.us

Also if yes, the project 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.



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C. Other Applicable Standards and Requirements (cont'd)

Online Users:
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

4. 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 MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.
- b. ACEC
5. 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
6. 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
7. 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. Check why the project is exempt:
1. ☐ Single-family house
 2. ☐ Emergency road repair
 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

- ☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

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.

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.



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D. Additional Information (cont'd)

3. ☒ Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), 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.

Burncoat Pond Dam Repairs (Plan Set)

a. Plan Title

Shawn King

b. Prepared By

October 24, 2017

d. Final Revision Date

Philip E. Forzley

c. Signed and Stamped by

As noted on plans

e. Scale

f. Additional Plan or Document Title

g. Date

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.

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

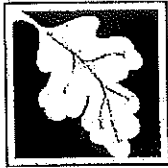
3. Check date

4. State Check Number

5. Check date

6. Payor name on check: First Name

7. Payor name on check: Last Name



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Provided by MassDEP:

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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.

Robert J. Dineen

1. Signature of Applicant

10-13-2017

2. Date

3. Signature of Property Owner (if different)

Christy J. Luthi

4. Date

11/1/2017

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.

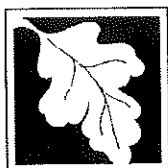
For MassDEP:

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:

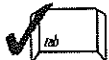
If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

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.



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NOI Wetland Fee Transmittal Form
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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



A. Applicant Information

1. Location of Project:

0 Burncoat Lane

a. Street Address

Leicester

b. City/Town

c. Check number

d. Fee amount

2. Applicant Mailing Address:

Robert

a. First Name

Dirsa

b. Last Name

Burncoat Pond Watershed District

c. Organization

45 Burncoat Lane

d. Mailing Address

Leicester

e. City/Town

MA

f. State

01524

g. Zip Code

(508) 735-2184

h. Phone Number

N/A

i. Fax Number

bdirsa@dcscorp.com

j. Email Address

3. Property Owner (if different):

a. First Name

b. Last Name

c. Organization

d. Mailing Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email Address

B. Fees

Fee should be calculated using the following process & worksheet. **Please see Instructions before filling out worksheet.**

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

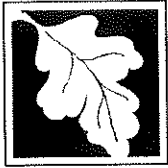
Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract \$12.50. To calculate the city/town share of the fee, divide the total fee in half and add \$12.50.

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).



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

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Category 4b - Dam Work	1.5	\$1,450.00	\$2,175.00

Step 5/Total Project Fee: \$2,175.00

Step 6/Fee Payments:

Total Project Fee:	Exempt
State share of filing Fee:	a. Total Fee from Step 5
City/Town share of filling Fee:	N/A
	b. 1/2 Total Fee less \$12.50
	N/A
	c. 1/2 Total Fee plus \$12.50

C. Submittal Requirements

- a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
Box 4062
Boston, MA 02211

- b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

To MassDEP Regional Office (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

1 Introduction

Pursuant to the Massachusetts Wetlands Protection Act (WPA), M.G.L. c. 131 40, 310 CMR §10.00, this Notice of Intent (NOI) describes work proposed by the Massachusetts Department of Conservation and Recreation associated with repairs to Burncoat Pond Dam. The project involves repairs to the vertical walls at locations where capstones have become dislodged, removal of trees from within 20 feet of the dam toe, minor repairs to cracks on concrete surfaces, placement of a sand filter material along the downstream right toe of the embankment for seepage control, and placement of rockfill on the downstream slope for surface protection.

The location of the dam site in Leicester, Massachusetts is shown on the Project Location Map, *Figure 1*, and the Project Vicinity Map, *Figure 2*. The existing and proposed conditions are shown on the Site Plans provided in *Appendix A*. Construction is anticipated to begin in December 2017 and be completed by January 2018.

Pursuant to 310 CMR 10.02 (2), filing of a WPA Form 3 Notice of Intent permit application in accordance with the Massachusetts Wetlands Protection Act is required because of proposed alterations within Bordering Vegetated Wetland, Land Under Water Bodies and Waterways, Bank, Bordering Land Subject to Flooding, and Riverfront Area. In addition to an Order of Conditions from the Leicester Conservation Commission, a U.S. Army Corps of Engineers (USACE) Pre-Construction Notification under the Section 404 of the Clean Water Act and a Dam Safety Chapter 253 Permit are required for this project.

2 Project Description

2.1 Existing Conditions

The dam is located at latitude 42.235404 North and longitude 71.945913 West on the Burncoat Brook in Worcester County. The dam sits at the southeast end of Burncoat Pond and west of Burncoat Lane.

Burncoat Pond Dam is a gravity masonry dam with earth fill. It is approximately 260 feet long with a maximum height of 14 feet. The width of the dam is approximately 23 feet wide in the area of the spillway and widens to a maximum width of 68 feet at the left abutment contact. The upstream face left of the spillway is coated with shotcrete/gunite. To the right of the spillway, a poured concrete wall supplements the masonry structure on the upstream face of the dam.

The primary spillway is a broad crested overflow weir located approximately 90 feet from the right abutment. It has a length and width of approximately 23 feet, a minimum depth below the dam crest of 36 inches, and a maximum depth below the crest of 44 inches. The downstream face of the dam is dry-stacked masonry. A concrete splash pad is located at the toe of the spillway. A 2-foot deep scour hole is located just downstream of the splash pad. Below the scour hole, the channel is armored with rip-rap for approximately 30 feet before transitioning to a natural stream channel.

A 1-foot by 1-foot square stone conduit serves as the low level outlet and is located approximately 10 feet left of the left spillway training wall. A small locked building houses the controls for the low level



outlet. Existing conditions plans are included in *Appendix A*. Existing site photographs are included in *Appendix B*.

The following are basic dam characteristics and elevations:

Dam Name:	Burncoat Pond Dam
Nat. ID Number:	MA00985
State ID Number:	3-14-151-9
Town	Leicester
Dam Owner:	Burncoat Pond Watershed District 45 Burncoat Lane, Leicester, MA 01524
Dam Caretaker:	Mr. Robert Dirsia 45 Burncoat Lane, Leicester, MA 01524
Hazard Potential:	Significant
Size Classification:	Intermediate
Location of Dam (town):	Leicester
Coordinate location (lat, long):	42.23540, -71.94607
Purpose of the Dam:	Current: Recreational Historical: Mill hydropower
Length:	260 feet
Structural Height:	14 feet
Hydraulic Height:	11 feet
Type of Dam:	Earth embankment supported by stone masonry and concrete walls
Low-Level Outlet:	1-foot by 1-foot square stone conduit

2.2 Project Purpose & Need

Fuss & O'Neill performed a Phase I Inspection for Burncoat Pond Dam on October 17, 2007. During the Phase I inspection and the follow-up inspections, the dam was found to be in Fair condition. The primary deficiencies identified during these inspections include:

- **Upstream Face:** The upstream face of the dam was originally a grouted masonry wall. The upstream face of the dam right of the spillway has been fortified with a poured concrete wall. The upstream face of the dam around the low level outlet building is armored with a poured concrete wall. To the left of the low level outlet building, the upstream face of the dam is coated with shotcrete. A clump of woody vegetation was observed growing uncontrolled at the left abutment contact.
- **Downstream Face:** The downstream face of the dam is a near vertical dry stacked masonry wall. Deficiencies noted include a few areas of missing capstones along the upstream and downstream walls, voids in the dam face where stones are missing near left abutment, a portion of the right downstream wall near the right abutment has collapsed, and seepage in the area of the low level outlet and right downstream area. Woody growth covers the right downstream slope with some trees within 20 feet of the dam toe and abutments.



- **Primary Spillway:** The primary spillway is in satisfactory condition. The spillway has a concrete deck and poured concrete training walls. The concrete is in fair condition with some minor erosion. The stilling basin has a scour hole forming that is approximately 2 feet deep. No control structures were located in the spillway. Deteriorated sandbags were placed in the spillway for unknown purpose.
- **Low Level Outlet:** The low-level outlet is located 10 feet left of the spillway, with the operator located within a locked concrete block building on the dam crest. The building has areas of deteriorated concrete and cracking. The low level outlet is a stone conduit. Seepage was observed around the area of the low-level outlet discharge.
- **Vegetation:** Large trees are present within 20 feet of the downstream toe of the right embankment.
- **Primary Spillway Training Walls:** Severely cracked and misaligned
- **Downstream Area and Abutments:** The area below Burncoat Pond Dam has moderate slopes. Vegetation along the downstream toe is generally 3 to 5 feet high. There is a generally damp area along the abutment contact at the right end of the dam. Pedestrian access to the base of the dam is fair. Vehicular/equipment traffic could be limited due to tree growth along Burncoat Lane, and restricted by Burncoat Brook for access to the right dam toe.
- **Seepage:** Observed at the toe of the right downstream masonry face and downstream slope. Ponding water was observed along the right downstream slope of the dam, to the right of Burncoat Brook.

2.3 Proposed Conditions

The intent of the current repairs is to address the seepage along the downstream right embankment, repair concrete deficiencies noted in the vicinity of the low-level outlet building and training walls, replace missing capstones, and remove encroaching vegetation as noted in the 2007 Phase I inspection. The following repairs are proposed, as depicted in the Site Plans:

1. **Place filter material and toe drain on right downstream slope to intercept seepage and transport water to Burncoat Brook.** A sand filter will be designed and constructed as a blanket on the downstream slope from the seepage area to the edge of the river. A slotted PVC toe drain with cleanout will be constructed at the base of the filter to remove water from the toe of the dam to the stilling basin.
2. **Armor the downstream slope.** Armoring shall be placed over the filter sand trench downgradient of the right dam toe and will protect the filter material and natural soil from erosion. The armor layer will also improve maintenance access to the right embankment. Additional rockfill armoring will be provided on the left dam toe, as shown in the Plans.
3. **Repair missing capstones as noted on the upstream and downstream walls.** Capstones on the embankment walls will be replaced as needed. Stones shall be replaced in a section of the downstream masonry wall towards the right abutment as indicated on the Site Plans.
4. **Repair concrete deficiencies noted on the spillway training walls and low-level outlet concrete block gatehouse.** Areas of cracking and spalling concrete were noted in the vicinity of the training walls and concrete block gatehouse structure. The deficient areas will be addressed in the repairs in order to reduce additional deterioration or vegetative growth through the structures.



5. **Remove trees and stumps from within 20 feet of the dam and abutments.** Stumps located very close to vertical masonry walls may be left in place to avoid disturbance of the masonry walls.

Construction-period mitigation for sedimentation and erosion controls includes the following, as shown on the Site Plans:

- Adequate sedimentation and erosion control management measures, practices and devices shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction, such as
 - phased construction;
 - installation of sediment control barriers including a perimeter silt fence barrier around the project site, floating silt curtain in the downstream brook, and the temporary stockpile areas will be surrounded by silt fence; and
 - application of temporary mulching during construction, and permanent seeding and stabilization,
 - installation of temporary plastic or timber mats to cross Burncoat Brook to access the right side of the dam.
- Temporary sediment control barriers will be removed upon completion of work but not until all disturbed areas are permanently stabilized. The sediment collected by these sediment barriers shall be removed and placed at an upland location and stabilized to prevent its subsequent erosion into a waterway or wetland.
- All exposed soil and other fills shall be permanently stabilized at the earliest practicable date.

2.3.1 Construction Sequencing

All work described in this section will be conducted in accordance with the Site Plans and as described in detail in other sections of this report. Flow in the existing stream will be maintained throughout construction using a pump and settling basin combination described in *Section 2.3*. The construction sequence will consist of the following general steps:

1. Site Preparation
 - a. Install sediment and erosion controls
2. Demolition
 - a. Remove woody vegetation, saplings, and trees
3. Site Work
 - a. Install toe drain and filter
 - b. Armor the right downstream toe/slope to protect the filter material and natural soil from erosion
 - c. Armor the left downstream toe
 - d. Repair missing capstones on upstream and downstream walls
 - e. Repair cracks and spalling concrete on training walls and in vicinity of the low-level outlet gatehouse
4. Site Closure
 - a. Remove all construction equipment
 - b. Once vegetation has established, remove E&S controls with the approval of the Leicester Conservation Commission

2.3.2 Project Abutters

In accordance with 310 CMR 10.05, concurrent with the filing of the Notice of Intent, the applicant shall provide notification to all Abutters. A "Request for Abutters List" was submitted to the Leicester Board of Assessors and the official provided list will be used to send Certified Mail notices of the project. The list of abutters is included in *Appendix C*. The return receipts will be provided to the Conservation Commission at the Hearing.

3 Wetland Resource Area Impacts and Mitigation

Wetland boundary delineations were performed by Robin Casioppo of Fuss & O'Neill, Inc. within a minimum of 50 feet of proposed work areas on August 11, 2017. The purpose of the delineation was to locate the jurisdictional limits of areas regulated under the Wetland Protection Act (M.G.L. c. 131 sec. 40) and the associated Wetland Protection regulations (310 CMR 10) using methodology presented in the Massachusetts DEP Handbook: Delineating Bordering Vegetated Wetlands, March 1995, the 1987 ACOE Wetland Delineation Manual, and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, January 2012. A Wetland Delineation Report is included as *Appendix E*. Inland wetland resource areas identified in the area of interest during the field inspection include Bordering Vegetated Wetlands (BVW), Land Under Water Bodies and Waterways (LUWW), Bank, Bordering Land Subject to Flooding (BLSF), and Riverfront Area (RA). The wetland boundaries, field verified by GPS, are shown on the Site Plans.

A summary of the wetland resource area impacts and proposed replication is included in *Table 2*. The General Performance Standards associated with the impact and replication areas for the resource areas are included in *Section 6*.

Table 1. Wetland Resource Area Impact Summary

Resource Area	Length/Area of Alteration	Associated Work	Proposed Resource Restoration
BVW	866 sf	Rockfill armoring, filter material, piping, and tree clearing	128 sf
LUWW	420 sf	Temporary stream crossing (HDPE or timber mats)	420 sf
Bank	80 lf	Equipment	80 lf
RA	18,000 sf within project area; 866 sf of permanent alteration	Rockfill armoring, filter material, piping, and tree clearing	Exempt pursuant to 310 CMR 10.58(6)(a)

3.1 Stormwater Management

In accordance with 310 CMR 10.05(6)(k)-(q), the Massachusetts Stormwater Standards must be adhered to with stormwater best management practices to attenuate pollutants and to provide a setback from the receiving waters and wetlands.

The Stormwater Management Standards apply to stormwater runoff from all industrial, commercial, institutional, office, residential and transportation projects that are subject to regulation under M.G.L. c. 131, § 40 including site preparation, construction, and redevelopment and all point source stormwater discharges from said projects within an Area Subject to Protection under M.G.L. c. 131, § 40 or within the Buffer Zone.

Since this project is not an industrial, commercial, institutional, office, residential and transportation projects, the standards are not applicable. Therefore, the Stormwater Checklist and Stormwater Report are not included.

4 Post-Construction Wetland Performance Standards

This project is a **Limited Project** as defined under 310 CMR 10.53 (3)(i) “for the maintenance, repair and improvement (but not substantial enlargement...) of structures, including dams and reservoirs and appurtenant works to such dams and reservoirs... which existed on the effective date of 310 CMR 10.51 through 10.60 (April 1, 1983).”

Water levels of Burncoat Pond will not be affected by construction activities. The project will not have an adverse effect on specified habitat sites of Rare Species as described in *Section 7*.

4.1 Bordering Vegetated Wetlands

Alteration of 866 sf of BVW is proposed with a restoration of 128 sf associated with the tree clearing areas will be restored at a 1:1 ratio in-situ. Permanent alteration of 866 sf of BVW is associated with modified rockfill armoring. This is a Limited Project under 310 CMR 10.53 (3)(i) and the permanent loss of wetland will not be replicated. Mitigation measures and the sequence of work for temporary impacts and in-situ replication are as follows:

- a) Wetland flagging will be maintained throughout the project.
- b) Erosion controls shall be installed prior to the commencement of work.
- c) No equipment will be stored, maintained or repaired in the BVW.
- d) No stockpiles of soils or materials will be placed within the BVW.
- e) Disturbed areas within the BVW and Buffer Zone will be seeded with a shade tolerate native conservation mix (New England Wetland Plants, Inc. New England Semi-Shade Grass and Forbs Mix or similar mix), where no riprap armoring is proposed.
- f) Once the adjacent Buffer Zone is stable erosion controls shall be removed from within the nearby BVW to facilitate in-situ replication.

4.2 Land Under Water Bodies and Waterways

The temporary alteration of 420 sf of LUWW is proposed for a stream crossing to the right dam embankment with 420 sf being replicated in-situ following in accordance with the General Performance Standards of 310 CMR 10.54(4).

4.3 Bank

Approximately 80 linear feet (lf) of Bank associated with construction will be temporarily altered. Although not required for a Limited Project, the Bank will be replicated in-situ in accordance with the General Performance Standards of 310 CMR 10.54(4).

4.4 Riverfront Area

There are a total of 18,000 sf of RA located within the project area. The proposed project involves alteration of 1,286 sf of RA associated with Burncoat Brook associated with tree clearing, toe drain installation, modified rockfill armoring installation, and temporary stream crossing installation.

The project consists of maintenance of a structure (not enlargement) in existence on August 7, 1996, and therefore it qualifies for an exemption from the requirements for Riverfront Area [310 CMR 10.58(1) through (5)] pursuant to 310 CMR 10.58(6)(a). As such, the requirement for the Evaluation of Alternatives and the adherence to the Massachusetts Stormwater Management Standards under this section do not apply. Nevertheless, the proposed work will result in no significant changes over existing conditions of the capacity of the RA to protect the interests identified in M.G.L. c. 131 § 40.

4.5 Bordering Land Subject to Flooding

The general performance standards under the WPA for Bordering Land Subject to Flooding include providing compensatory storage for all flood storage volume that will be lost as the result of a proposed project within BLSF, when said loss will cause an increase or will contribute incrementally to an increase in the horizontal extent and level of flood waters during peak flows.

There is no loss in floodplain volume associated with the proposed project components.

5 Threatened and Endangered Species

5.1 Federal Endangered Species

The U.S. Fish & Wildlife Service (USFWS) enacted a final rule that identifies Endangered Species Act protections for the northern-long eared bat (NLB). The final 4(d) rule, published in the Federal Register on January 14, 2016, identifies prohibitions that focus on protecting the bat's sensitive life stages in areas affected by white-nose syndrome. The project site is located within Worcester County, which is located within the White Nose Syndrome (NWS) Zone (*Appendix F1*). The "Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and activities Excepted from Take Prohibitions for Regions 2, 3, 4, 5, and 6"¹, which was prepared by USFWS and issued January 5, 2016, stated that the following activities are prohibited under 4(d), and would require a project-specific Section 7 consultation:

1. Activities resulting in the disruption of NLB in their hibernacula
2. Activities resulting in physical alteration of a hibernaculum's entrance or environment at any time of year
3. Tree clearing within 0.25 miles of a known NLB hibernaculum
4. Tree clearing that results in cutting or destroying known, occupied maternity roost trees or any other trees within a 150-foot radius around the roost tree during pup season (June 1 – July 31).

NLB are known to roost in cavities, under bark, crevices, or hollows of live and dead trees or snags greater than 3 inches diameter at breast height (dbh). NLB have also been known to roost in buildings, under bridges, and in bat houses. There are no known hibernacula located within Leicester according to the Massachusetts Natural Heritage & Endangered Species Program (NHESP) Massachusetts Endangered Species Act (MESA)-listed species observations in the Commonwealth, dated March 24, 2016 (*Appendix F2 and F3*).

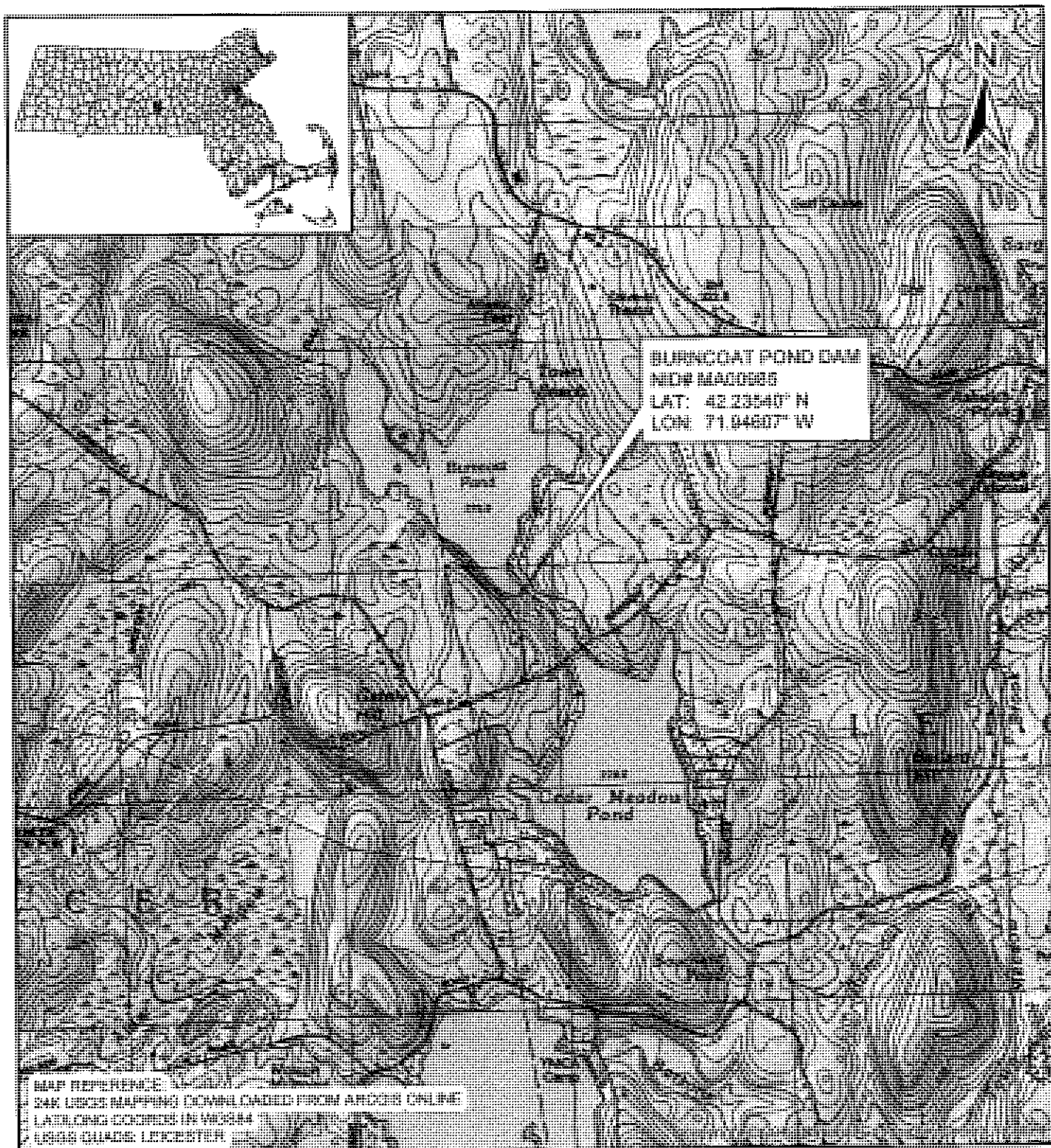
Since the activity will take place at least 0.25 miles outside of a known NLB hibernaculum, no permit/consultation should be necessary. In addition, tree removal will not occur between June 1 and July 31.

5.2 State-listed Species

The proposed activities are not located within a Natural Heritage and Endangered Species Program (NHESP) Priority Habitat of Rare Species ("Priority Habitat") area. Therefore, coordination with NHESP is not required in accordance with Massachusetts Endangered Species Act (MESA) Regulations at 321 CMR 10. Wetland areas upstream of the dam and Burncoat Pond will not be impacted by proposed construction activities.

¹ The 13 northeastern states are Region 5

Figures



OCTOBER 2017

FIGURE 1

BURNCOAT POND WATERSHED DISTRICT

2,000 1,000 0 2,000 Feet



LOCUS MAP

BURNCOAT POND DAM (MA00985)

SCALE
 HORZ: 1 INCH = 2,000 FEET
 VERT:
 DATUM
 HORZ:
 VERT: NGVD29



FUSS & O'NEILL

LEICESTER, MASSACHUSETTS



OCTOBER 2017

FIGURE 2

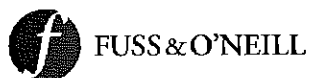
100 50 0 100 200 Feet

BURNCOAT POND WATERSHED DISTRICT

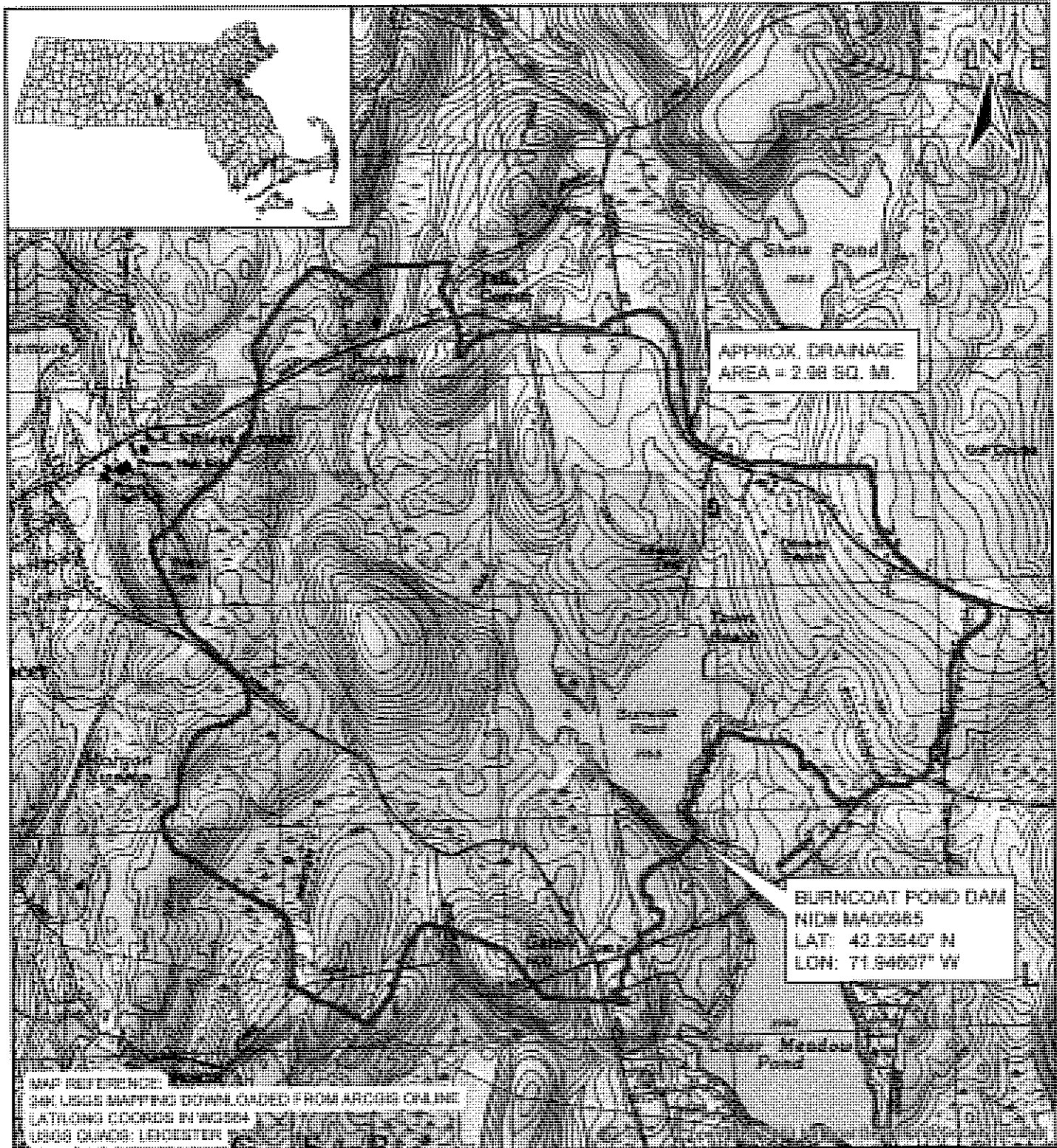
AERIAL MAP

BURNCOAT POND DAM (MA00985)

SCALE
HORZ: 1 INCH = 200 FEET
VERT:
DATUM
HORZ:
VERT: NGVD29



LEICESTER, MASSACHUSETTS



OCTOBER 2017

FIGURE 3

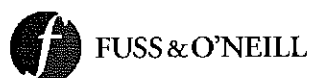


BURNCOAT POND WATERSHED DISTRICT

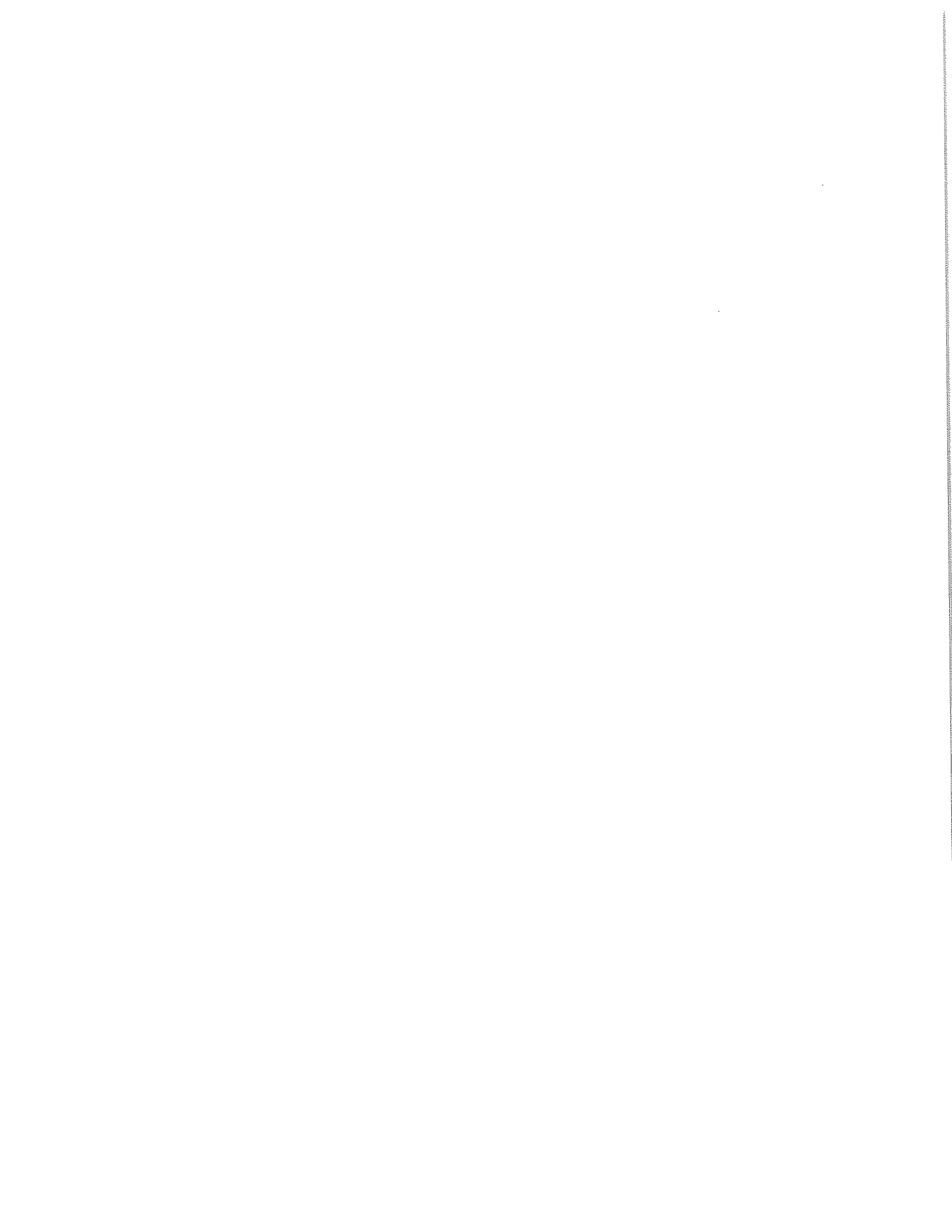
DRAINAGE AREA MAP

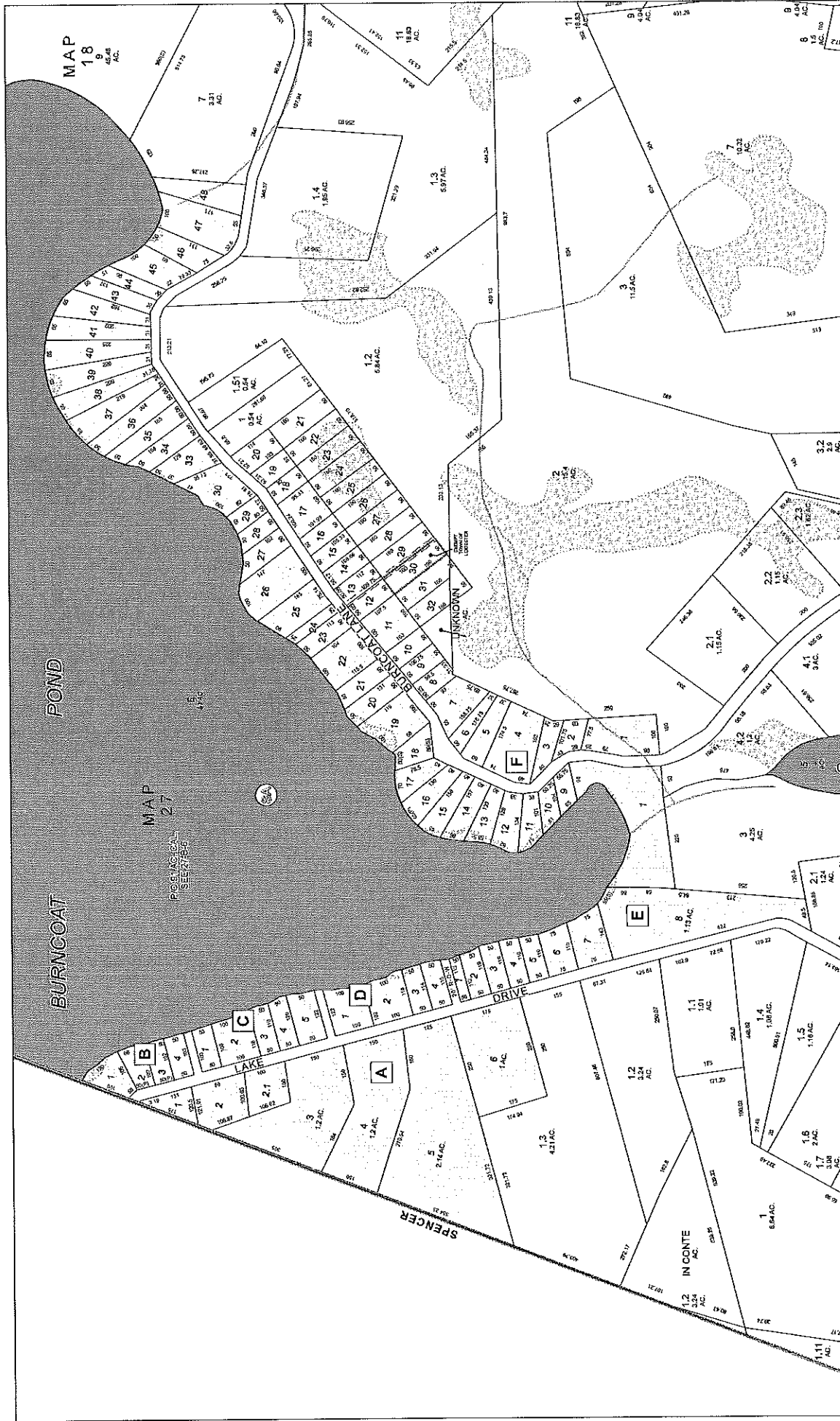
BURNCOAT POND DAM (MA00985)

SCALE
HORZ: 1 INCH = 2,000 FEET
VERT:
DATUM
HORZ:
VERT: NGVD29



LEICESTER, MASSACHUSETTS





FOR TAX PURPOSES ONLY		PRODUCED IN 2014 BY CMRPG COURTESY OF THE TOWN OF LEICESTER		LEGEND PROPERTY LINES EASEMENTS TOWN BOUNDARY RAILROAD WATER STREAMS WETLANDS		TOWN OF LEICESTER BOARD OF ASSESSORS LEICESTER, MASS.		MAP NO. 27A REVISED TO: JANUARY 1, 2014 SCALE 1 in = 100 feet	
<p>THIS MAP IS FOR ASSESSMENT PURPOSES. IT IS NOT TO BE USED FOR LEGAL DESCRIPTION OR CONVEYANCE.</p> <p>THE HORIZONTAL DATUM IS THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, NAD 83</p>									

Appendix A

Site Plans

Appendix B

Site Photographs



Photo 1: Overview of dam from upstream



Photo 2: Overview of dam from downstream

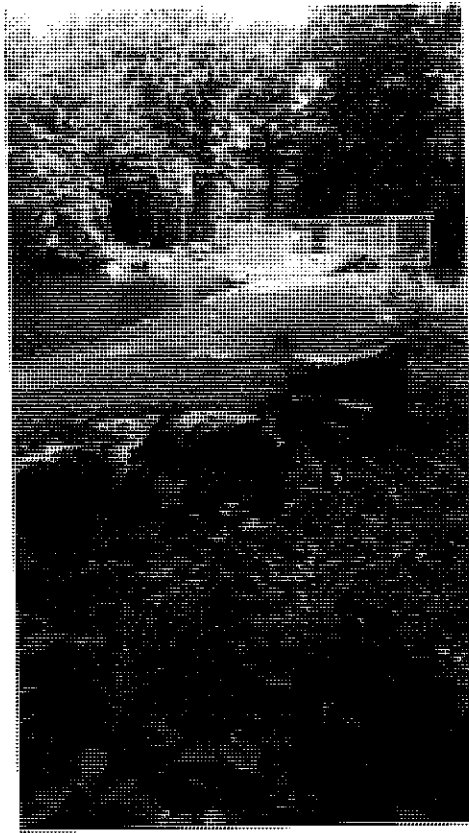


Photo 3: Overview of dam from right abutment

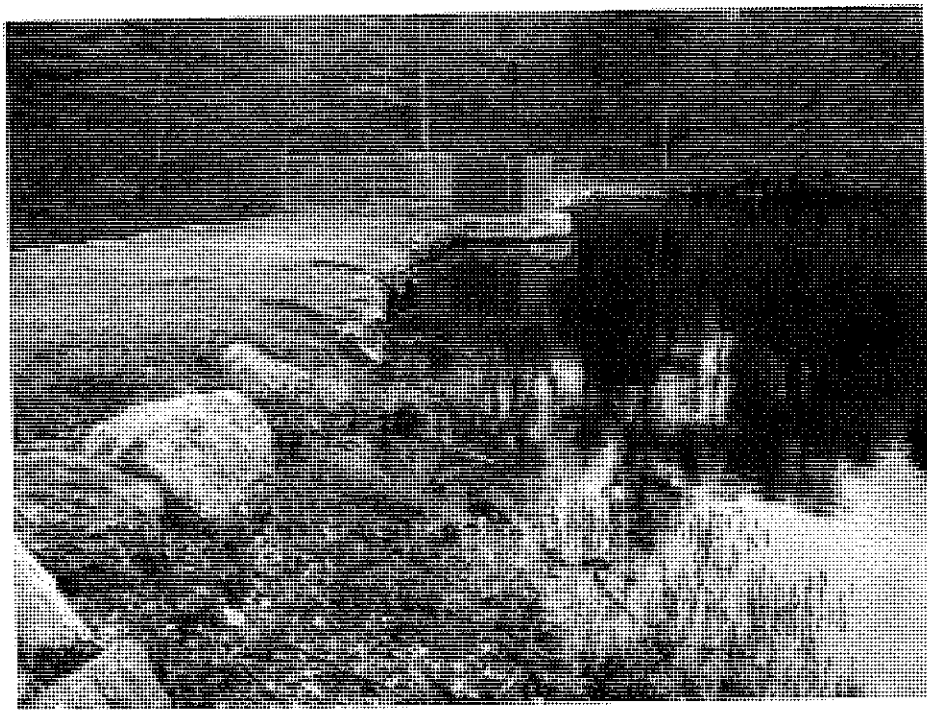


Photo 4: Overview of dam from left abutment



Photo 5: Overview of downstream face from left abutment

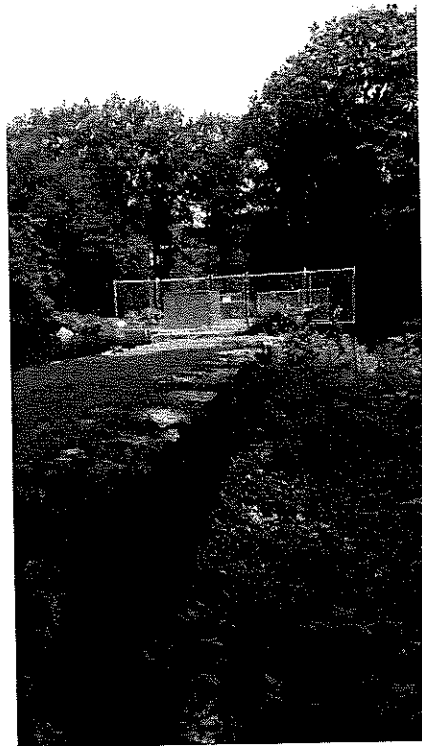


Photo 6: Overview of downstream face from right abutment



Photo 7: Overview of spillway from downstream

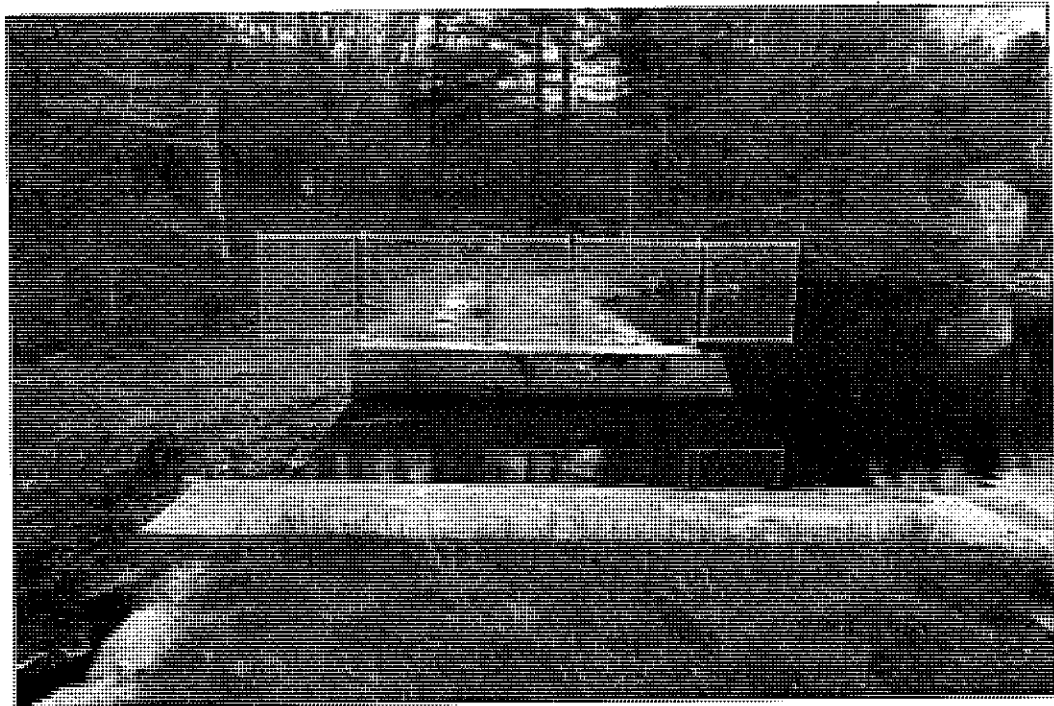


Photo 8: Overview of spillway and right training wall from left embankment crest

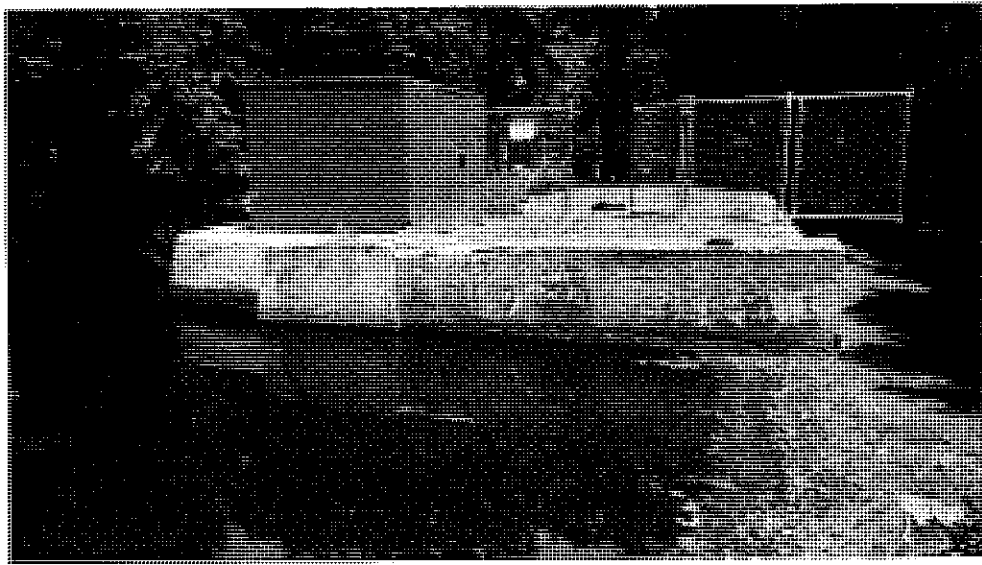


Photo 9: Overview of spillway, left training wall, and gatehouse from right embankment crest



Photo 10: Overview of still basin and downstream channel area



Photo 11: Overview of right downstream slope with seepage and excessive woody vegetation

Appendix C

Abutters List

ParcelID	Location	Owner	Co-Owner	Mailing Address	City	State	Zip
27 B3 0	400 RAWSON ST	STILES PHILIP G	STILES PAULA J	400 RAWSON ST	LEICESTER	MA	01524
27 B4.2 0	11 BURNCOAT LN	BEATTY MARK W	BEATTY ANNE	11 BURNCOAT LANE	LEICESTER	MA	01524
27 B5 0	CEDAR MEADOW POND	CENTRAL WATER DISTRICT CO IN		P O BOX 327	ROCHDALE	MA	01542-0111
27 B6 0	BURNCOAT POND	BURNCOAT POND WATERSHED D		PO BOX 346	LEICESTER	MA	01524
27 C2 0	BURNCOAT LN	OVEKA II JOHN P	OVEKA BETH-ELLEN	1 BURNCOAT LANE	LEICESTER	MA	01524
27 C2.1 0	BURNCOAT LN	SKOG DONALD E		10 BURNCOAT LN	LEICESTER	MA	01524
27A E10 0	21 BURNCOAT LN	PERRONE JAMES D	PERRONE KAREN A	21 BURNCOAT LN	LEICESTER	MA	01524
27A E11 0	23 BURNCOAT LN	SALEM MARY G		23 BURNCOAT LN	LEICESTER	MA	01524
27A E12 0	25 BURNCOAT LN	ALVAREZ TODD		25 BURNCOAT LN	LEICESTER	MA	01524
27A E13 0	27 BURNCOAT LN	WROBLESKI THADDEUS C	WROBLESKI JO-ANN	27 BURNCOAT LANE	LEICESTER	MA	01524
27A E14 0	29 BURNCOAT LN	GERVAIS SUSAN E		29 BURNCOAT LANE	LEICESTER	MA	01524
27A E15 0	31 BURNCOAT LN	GIAQUINTO JUSTIN		31 BURNCOAT LN	LEICESTER	MA	01524
27A E16 0	33 BURNCOAT LN	DOANE PETER W	DOANE KARLA J	P O BOX 1	ROCHDALE	MA	01542
27A E9 0	BURNCOAT LN	PERRONE JAMES D	PERRONE KAREN A	21 BURNCOAT LANE	LEICESTER	MA	01524
27A F2 0	BURNCOAT LN	WROBLESKI THADDEUS C	WROBLESKI JO ANN M	27 BURNCOAT LANE	LEICESTER	MA	01524
27A F3 0	BURNCOAT LN	WROBLESKI THADDEUS C	WROBLESKI JO ANN M	27 BURNCOAT LANE	LEICESTER	MA	01524
27A F4 0	5 BURNCOAT LN	WROBLESKI THADDEUS C	WROBLESKI JO ANN M	27 BURNCOAT LANE	LEICESTER	MA	01524
27A F5 0	32 BURNCOAT LN	SAULENAS MARIANN		32 BURNCOAT LANE	LEICESTER	MA	01524-0241
27A F6 0	34 BURNCOAT LN	JENSEN JOSEPH C	JENSEN JOYCE A	36 BURNCOAT LN	LEICESTER	MA	01524
27A F7 0	36 BURNCOAT LN	JENSEN JOSEPH C	JENSEN JOYCE A	36 BURNCOAT LN	LEICESTER	MA	01524

End of Report

Above is a certified list of direct abutters and abutters to abutters within 300 feet of subject.

Subject property: Burncoat Lane, Assessors Map 27A-F1-0, Deed Ref. 57563/168

Subject owner(s): Thaddeus & Jo-Ann Wroblewski

John Prescott, Principal Assessor

Prepared by: Kathleen Asquith, Assistant

Appendix D

Wetland Delineation Report



FUSS & O'NEILL

Massachusetts Inland Resource Area Delineation Report

Report Date: October 11, 2017

Prepared For: Mr. Robert Dirs, Chairman
Burncoat Pond Watershed District
45 Burncoat Lane
Leicester, MA 01524

Site Address/Location: Burncoat Pond Dam, Leicester, MA
42.235409°N, 71.945937°W

Inspection Date(s): August 11, 2017

Regulated Inland Wetland Resource Areas:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Bank | <input checked="" type="checkbox"/> Bordering Vegetated Wetland (BVW) |
| <input checked="" type="checkbox"/> Land Under Water Bodies and Waterways | <input type="checkbox"/> Land Subject to Flooding (BLSF/ILSF) |
| <input checked="" type="checkbox"/> Riverfront Area | <input type="checkbox"/> Isolated Vegetated Wetland |
| <input checked="" type="checkbox"/> Buffer Zone | <input type="checkbox"/> Estimated Habitats of Rare Wildlife |
| <input type="checkbox"/> Vernal Pool (Certified and/or Potential) | <input checked="" type="checkbox"/> Priority Habitats of Rare Species |

Delineated Resource Area Field Numbering Sequence [as depicted on the attached Resource Map]:

Bank/LUWW: A100-110, B200-204, C300-310, D400-404

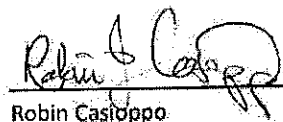
Inland resource areas were delineated in accordance with applicable local, state and federal statutes, as detailed within the Resource Area Description attachment. This delineation does not constitute an official wetland boundary until such time as it is accepted and approved by local, state or federal regulatory agencies.

146 Hartford Road
Manchester, CT
06040
t 860.646.2469
800.286.2469
f 860.533.5143

www.fando.com

Connecticut
Massachusetts
Rhode Island
South Carolina

The wetlands delineation was conducted by:


Robin Casio
Wetland Scientist/Soil Scientist



FUSS & O'NEILL

Massachusetts Inland Resource Area Delineation Report

Resource Area Description

ATTACHMENTS

- Resource Area Description
- DEP Bordering Vegetated Wetland (310 CMR 10.55)
Delineation Field Forms
- NRCS Soil Map and Soil Report
- Resource Area Sketch Map
- MassGIS: OLIVER generated FEMA Map



Massachusetts Inland Resource Area Delineation Report

Resource Area Description

Introduction

Fuss & O'Neill Inc. performed a wetland resource area field inspection and delineation at Burncoat Pond dam ("Site") located off Burncoat Lane in Leicester, MA. The field inspection and delineation occurred on August 11, 2017. The purpose of the delineation was to locate the jurisdictional limits of areas regulated under the Wetlands Protection Act (M.G.L. c. 131 sec. 40) and associated Wetlands Protection Act Regulations (310 CMR 10).

Bank and Bordering Vegetated Wetland (BVW) inland wetland resource areas were identified and delineated during the field investigation. Consecutively numbered flags were placed in the field to demarcate these resource area boundaries. These resource area boundary flags were then GPS located with sub-meter accuracy. The GPS located flags and corresponding resource area labels are depicted on the attached *Wetland Sketch Map*. Regulated Buffer Zone and Riverfront Areas on the Property are measured horizontally from the boundaries of BVWs and perennial watercourse Banks.

Maps retrieved from MassGIS were used to determine if specific regulated inland wetland resources have been mapped and/or documented on the Property. Burncoat Pond is mapped as Priority Habitats of Rare Species according to Massachusetts Natural Heritage and Endangered Species Program (NHESP) mapping. MassGIS maps do not depict Certified Vernal Pools, Potential Vernal Pools or Bordering Land Subject to Flooding (see additional details regarding FEMA Flood Zones below) on the Site. A detailed description of each regulated resource area present on the Property is provided below.

Resource Areas

Bank: Regulatory Framework and Delineation Methodology

Bank is defined under 310 CMR 10.54(2)(c) as *"the portion of the land surface which normally abuts and confines a water body. It occurs between a water body and a vegetated bordering wetland and adjacent flood plain, or, in the absence of these, it occurs between a water body and an upland."* Fuss & O'Neill Inc. performed a delineation of Bank within the area of interest using consecutively numbered flags placed in the field to demarcate the Bank of Burncoat Pond and Burncoat Brook.

Bank: Resource Description

Bank was located in the field by the first observable break in topography between water bodies and the adjacent BVW or upland. Water bodies on the property include Burncoat Pond and Burncoat Brook. The delineated Bank along the pond and brook coincided with the Mean Annual High-Water Line (MAHWL)/bankfull, as defined under 310 CMR 10.58 (2)(a)(2).



Massachusetts Inland Resource Area Delineation Report

Resource Area Description

Riverfront Area: Regulatory Framework and Delineation Methodology

Riverfront Area is defined under 310 CMR 10.58(2)(a) as *"the area of land between a river's mean annual high water line and a parallel line measured horizontally."* 310 CMR 10.58(2)(a)(1) defines rivers as, *"any natural flowing body of water that empties to any ocean, lake, pond or other river and which flows throughout the year. Rivers include streams (see 310 CMR 10.04: Stream) that are perennial because surface water flows within them throughout the year. Intermittent streams are not rivers as defined herein because surface water does not flow within them throughout the year."* 310 CMR 10.58(2)(a)(2) further specifies that *"The Riverfront Area is the area of land between a river's mean annual high-water line measured horizontally outward from the river and a parallel line located 200 feet away, ..."* continuing with exceptions that are not applicable to the Property.

The extent of the Riverfront Area on the Property is determined by measuring a horizontal line 200 feet from the delineated mean annual high-water line of the pond and brook. As previously noted, the mean annual high water line of the identified watercourse coincides with the delineated Bank resource.

Riverfront Area: Resource Area Description

The Riverfront Area within the area of interest includes the regulated resource area BVW. No vernal pools or isolated vegetated wetlands are located within the Riverfront Area on the Property. The Riverfront Area on the Property also includes: FEMA floodway, FEMA 100-year flood zone, and residential properties. Evidence of wildlife usage within the Riverfront Area was limited to sightings of common songbirds, deer browse, raccoon tracks, and a mink sighting.

Land under Water Bodies and Waterways (LUWW)

LUWW is defined under 310 CMR 10.56 (2)(a) as *"the land beneath any creek, river, stream, pond or lake. Said land may be composed of organic muck or peat, fine sediments, racks or bedrock."* The boundary of LUWW is defined as the mean annual low water level (310 CMR 10.56 (2)(c)). LUWW was not specifically field delineated. For the intents and purposes of this resource area delineation, the delineated Banks of Burncoat Pond and Burncoat Brook are analogous to the limits of LUWW.

Bordering Vegetated Wetlands (BVW): Regulatory Framework and Delineation Methodology

As stated in 310 CMR (2)(a), *"Bordering Vegetated Wetlands are freshwater wetlands which border on creeks, rivers, streams, ponds and lakes. The types of freshwater wetlands are wet meadows, marshes, swamps and bogs. Bordering Vegetated Wetlands are areas where the soils are saturated and/or inundated such that they support a predominance of wetland*



Massachusetts Inland Resource Area Delineation Report

Resource Area Description

indicator plants. The ground and surface water regime and the vegetation community which occur in each type of freshwater wetland are specified in M.G.L. c 131 sec. 40."

Fuss & O'Neill Inc. inspected the Site for bordering vegetated wetlands in accordance with methodology provided in the Massachusetts DEP handbook, *Delineating Bordering Vegetated Wetlands under the Massachusetts Wetlands Protection Act*, (March 1995), the 1987 *Corps of Engineers Wetlands Delineation Manual*, and the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Northcentral and Northeast Region* (Version 2.0. January 2012). Data regarding vegetation, soils, and hydrology was gathered to complete the required MassDEP BVW delineation field forms. Wetlands are categorized in accordance with *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et.al. 1979).

Hydric soil determinations were made in accordance with *Field Indicators for Identifying Hydric Soils in New England* (NEIWPCC, 2004). The Wetland Indicator Status for plant species was ascertained using the USACE *Northcentral and Northeast 2014 Regional Wetland Plant List* (Lichvar et al., 2014).

BVW: Resource Area Description

Vegetation

Two BVWs were identified within the area of interest. The BVW upstream of the dam is classified as palustrine emergent wetland. Common vegetation identified within emergent BVWs includes [common name/scientific name (indicator status)]: silky dogwood/*Cornus amomum* (FACW), poison ivy/*Toxicodendron radicans* (FAC), sensitive fern/*Onoclea sensibilis* (FACW), cinnamon fern/*Osmundastrum cinnamomeum* (FACW), jewelweed/*Impatiens capensis* (FACW), royal fern/*Osmunda regalis* (OBL), soft rush/*Juncus effusus* (OBL), tall meadow rue/*Thalictrum pubescens* (FACW), burr-reed/*Sparganium* spp. (OBL), common buttonbush/*Cephalanthus occidentalis* (OBL), and blue flag iris/*Iris versicolor* (OBL).

The BVW downstream of the dam is classified as palustrine forested wetland. Common vegetation identified within forested BVWs includes: Red Maple/*Acer rubrum* (FAC), highbush blueberry/*Vaccinium corymbosum* (FACW), bittersweet/*Celastrus orbiculatus* (UPL), poison ivy/*Toxicodendron radicans* (FAC), arrowwood/*Viburnum dentatum* (FACW), elderberry/*Sambucus nigra* (FACW), spicebush/*Lindera benzoin* (FACW), multiflora rose/*Rosa multiflora* (FACU), cinnamon fern/*Osmundastrum cinnamomeum* (FACW), sensitive fern/*Onoclea sensibilis* (FACW), Jack-in-the-pulpit/*Arisaema triphyllum* (FAC), skunk-cabbage/*Symplocarpus foetidus* (OBL), false hellebore/*Veratrum viride* (FACW), and jewelweed/*Impatiens capensis* (FACW).

Massachusetts Inland Resource Area Delineation Report

Resource Area Description

Hydrology

The BVW upstream of the dam is located along the southeast edge of Burncoat Pond. The downstream BVW is located southwest of the dam. The BVWs also receive overland flow from the surrounding uplands and intercept seasonally high groundwater. No defined intermittent watercourse channels were identified on the property during the inspection. Evidence of surface water and soil saturation include: direct observation of surface water, water stained leaves and tree trunks, sediment deposition, free water in test holes, saturated soils, and hydric soils. Burncoat Brook flows southeast from the Burncoat Pond Dam.

Soils

The Natural Resource Conservation Service (NRCS) mapped soil types on the Property include: Ridgebury, Whitman, and Montauk series. Detailed information regarding each of these soil series is included within the NRCS Soil Map and Soil Report attachment. Results of the detailed field analyses of soils on the Property were generally consistent with the published NRCS soil mapping.

Buffer Zone

Buffer Zone is defined in 310 CRM 10.04 as *"that area of land extending 100 feet horizontally outward from the boundary of any area specified in 310 CMR 10.02(1)(a)."* Buffer Zone within the area of interest is associated with BVW and Bank. The buffer zone on the Property contains upland forest and residential properties. Common vegetation within the Buffer Zone includes: beech/*Fagus grandifolia* (FACU), red maple, red oak/*Quercus rubra* (FACU), eastern white pine/*Pinus strobus* (FACU), gray birch/*Betula populifolia* (FAC), Virginia creeper/*Parthenocissus quinquefolia* (FACU), grape/*Vitis labrusca* (FACU), bittersweet, multiflora rose, sassafras/*Sassafras albidum* (FACU), staghorn sumac/*Rhus hirta* (UPL), brambles/*Rubus spp.*, greenbriar/*Smilax latundifolia* (FAC), tatarian honeysuckle/*Lonicera tatarica* (FACU), whorled bedstraw/*Galium mollugo* (UPL), sensitive fern, and Canada mayflower/*Maianthemum canadense* (FACU).

FEMA Flood Zones

The MassGIS National Flood Hazard Layer provided by the Federal Emergency Management Agency (FEMA) depicts areas of potential flooding on the Property. The area of interest is located within the 100-year Flood Zone associated with Burncoat Pond and Burncoat Brook. These areas are not depicted as Bordering Land Subject to Flooding (BLSF): BLSF is defined in 310 CMR 10.57 (2)(a)(1) as *"an area with low, flat topography adjacent to and inundated by flood waters rising from creeks, rivers, streams, ponds or lakes. It extends from the banks of these waterways and water bodies; where a bordering vegetated wetland occurs, it extends from said wetlands."*



FUSS & O'NEILL

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Forms

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: Burncoat Pond Watershed District Prepared by: Robin Casiooppo Project location: Burncoat Pond, Leicester DEP File #: _____

- Check all that apply:
- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only **YES**
 - ☐ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
 - ☐ Method other than dominance test used (attach additional information)

Section I.

Vegetation		Observation Plot Number: B1W1		Transect Number: 1	Date of Delineation: 08/11/2017
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (or basal Area)	C. Percent Dominance	D. Dominant Plant (yes or no)		E. Wetland Indicator Category*
Shrubs					
Buttonbush/Cephalanthus occidentalis*	15	100	Yes		OBL
Herbs					
Blue flag iris/Iris versicolor*	25	27	Yes		OBL
Jewelweed/Impatiens capensis*	20	22	Yes		FACW
Sensitive fern/Onoclea sensibilis*	5	6	No		FACW
Poison ivy/Toxicodendron radicans*	10	11	No		FAC
Marsh St. John's wort/					
Triadenum virginicum*					
Sallow sedge/Carex lurida*	10	11	No		OBL
Sagittaria sp.*	5	6	No		OBL
Bonset/Eupatorium perfoliatum*	2	2	No		FACW
Sparganeum sp.*	2	2	No		OBL
Swamp loosestrife/					
Decodon verticillatus*	10	11	No		OBL
Halberd-leaved smartweed/					
Periscaria arifolia*	2	2	No		OBL

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 3 Number of dominant non-wetland indicator plants: 0

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? **YES** no
If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent

MassDEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: Burncoat Pond Watershed District Prepared by: Robin Casio Project location: Burncoat Pond, Leicester DEP File #: _____

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only **YES**
- ☐ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I.

Vegetation		Observation Plot Number: D1W1		Transect Number: 2	Date of Delineation: 08/11/2017
A. Sample Layer & Plant Species (by common/scientific name)	B. Percent Cover (or basal Area)	C. Percent Dominance	D. Dominant Plant (yes or no)		E. Wetland Indicator Category*
Trees					
Red maple/Acer rubrum*	20	67	Yes		FAC
Glossy false buckthorn/Frangula alnus*	10	33	Yes		FAC
Shrubs					
Sweet pepperbush/Clethra alnifolia*	15	100	Yes		FAC
Herbs					
Jewelweed/Impatiens capensis*	15	42	Yes		FACW
New England American aster/ Symphyotrichum novae-angliae*	10	28	Yes		FACW
Sensitive fern/Onoclea sensibilis*	5	15	No		FACW
Wrinkle-leaved goldenrod/ Solidago rugosa*	2	5	No		FAC
Eastern willow herb/ Epilobium coloratum*	2	5	No		OBL
Jack-in-the-pulpit/Arisaema triphyllum*	2	5	No		FAC
Woody vines					
Wild grape/Vitis sp.	25	100	Yes		Unknown

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 5 Number of dominant non-wetland indicator plants: 0

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? **YES** no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent



FUSS & O'NEILL

NRCS Soil Map and Soil Report

Soil Map—Worcester County, Massachusetts, Southern Part (Burncoat Pond Dam, Leicester, MA)



MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Worcester County, Massachusetts, Southern Part










































Survey Area Date: Version 9, Sep 15, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 8, 2011—Apr 9, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

MAP LEGEND

	Area of Interest (AOI)		Spot Area
	Soils		Stony Spot
	Soil Map Unit Polygons		Very Stony Spot
	Soil Map Unit Lines		Wet Spot
	Soil Map Unit Points		Other
	Special Point Features		Special Line Features
	Blowout		
	Borrow Pit		Water Features
	Clay Spot		Streams and Canals
	Closed Depression		Transportation
	Gravel Pit		Rails
	Gravelly Spot		Interstate Highways
	Landfill		US Routes
	Lava Flow		Major Roads
	Marsh or swamp		Local Roads
	Mine or Quarry		Background
	Miscellaneous Water		Aerial Photography
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

Map Unit Legend

Worcester County, Massachusetts, Southern Part (MA615)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1	Water	1.4	17.1%
71B	Ridgebury fine sandy loam, 3 to 8 percent slopes, extremely stony	1.2	14.4%
73A	Whitman fine sandy loam, 0 to 3 percent slopes, extremely stony	2.1	25.6%
302B	Montauk fine sandy loam, 0 to 8 percent slopes, extremely stony	0.2	2.4%
302C	Montauk fine sandy loam, 8 to 15 percent slopes, extremely stony	2.3	27.9%
307B	Paxton fine sandy loam, 0 to 8 percent slopes, extremely stony	1.0	12.6%
Totals for Area of Interest		8.1	100.0%



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Wetland Sketch Map

Wetland Delineation Sketch Map - Burncoat Pond Dam, Leicester, MA



August 11, 2017

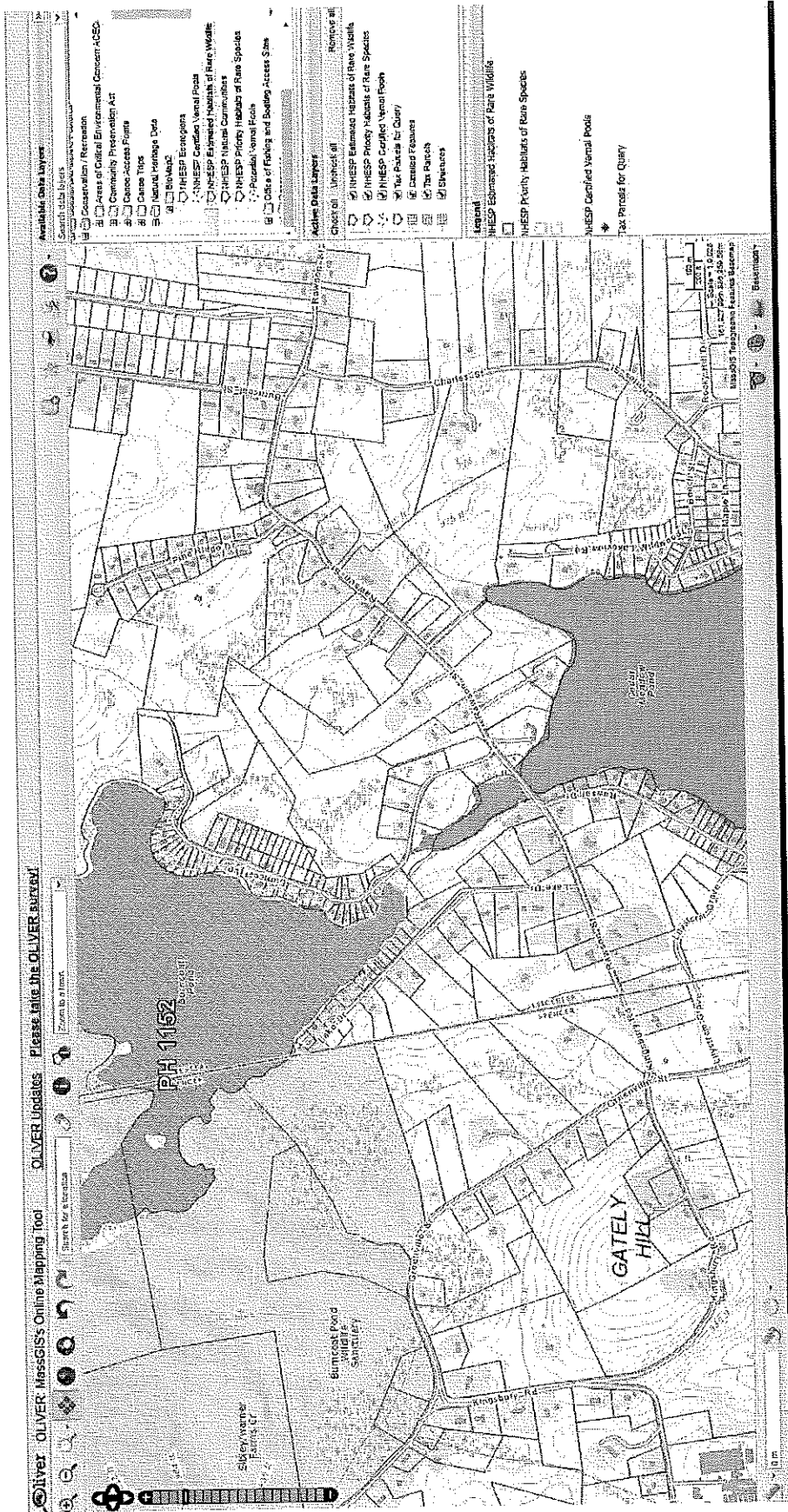
Delineated by Robin Casiooppo, Fuss & O'Neill

20071481.A30



FUSS & O'NEILL

MassGIS Maps



MassGIS OLIVER
Burncoat Pond Dam
Leicester, MA

Appendix E

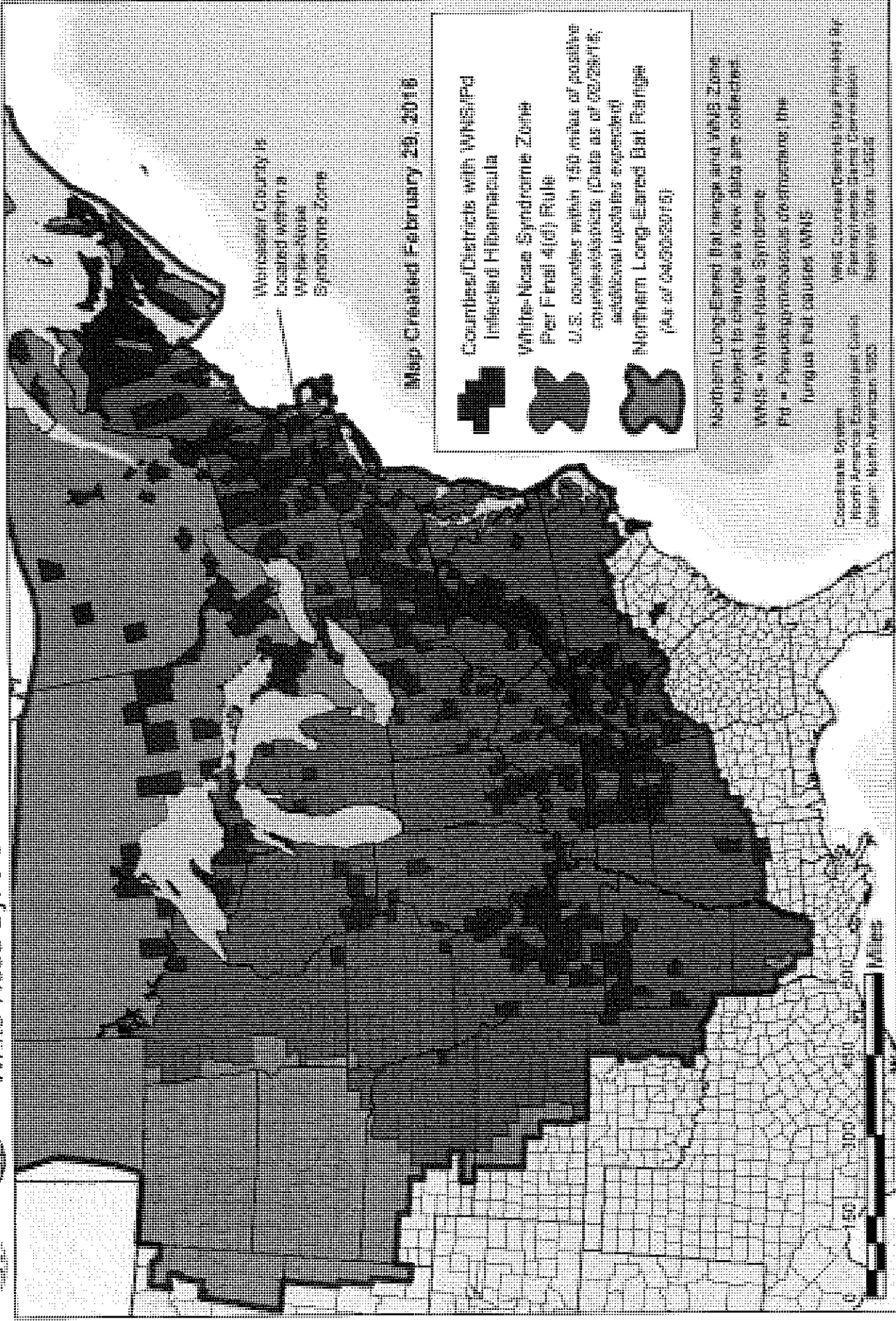
Threatened and Endangered Species Documentation



U.S. Fish & Wildlife Service

Northern Long-Eared Bat Final 4(d) Rule

White-Nose Syndrome Zone Around WNS/Pd Positive Counties/Districts



**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN
MASSACHUSETTS**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Bourne (north of the Cape Cod Canal)
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Taunton
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

Updated 02/05/2016

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES
IN MASSACHUSETTS**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Franklin	Northeastern bluntnose	Endangered	Wetlands	Montague, Warwick
	Dwarf wedgemussel	Endangered	Mill River	Whately
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hatfield, Amherst and Northampton
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

Updated 02/05/2016

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, Wareham, Halifax, and Pembroke
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Suffolk	Piping Plover	Threatened	Coastal Beaches	Revere, Winthrop
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

¹Migratory only, scattered along the coast in small numbers

- Eastern cougar and gray wolf are considered extirpated in Massachusetts.
- Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.
- Critical habitat for the Northern Red-bellied Cooter is present in Plymouth County.

**MESA-listed species observations in the Commonwealth
Northern Long-eared Bat**

Town	Taxonomic Group	ScientificName	CommonName	MESA Status	Most Recent Observation
ADAMS	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2000
AQUINNAH	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2014
CHARLEMONT	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2014
CHESHIRE	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2001
CHESTER	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2009
CHILMARK	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2015
EDGARTOWN	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2015
EGREMONT	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2005
NEEDHAM	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2011
NEW MARLBOROUGH	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2000
NORTH ADAMS	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	1997
OAK BLUFFS	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2015
PEPPERELL	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	1997
ROWE	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2009
SANDWICH	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2015
STURBRIDGE	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2000
TISBURY	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2015
WELLESLEY	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2011
WEST STOCKBRIDGE	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2000
WEST TISBURY	Mammal	Myotis septentrionalis	Northern Long-eared Bat	E	2014

article	R/A	free cash	other funds	revolving Auth.	auth to borrow
S2			125,410		
S3		124,250			
S4		72,400			
S5		115,081			
S6		19,250			
S7		12,000			
A6				200,000	
A9	26,995,576	25,250	328,826		
A10	1,078,000				
A11	2.990.20				
A12		269,705			
A13		243,047			
A15		5,000			
A16		76,400			
A18		35,000			
A19		18,000			
A21					750,000
TOTALS	28,076,555.94	1,015,383	454,236	200,000	750,000

article	R/A	free cash	other funds	revolving Auth.	auth to borrow
S2			125,410		
S3		124,250			
S4		72,400			
S5		115,081			
S6		19,250			
S7		12,000			
A6				200,000	
A9	26,995,576	25,250	328,826		
A10	1,078,000				
A11	2.990.20				
A12		269,705			
A13		243,047			
A15		5,000			
A16		76,400			
A18		35,000			
A19		18,000			
A21					750,000
TOTALS	28,076,555.94	1,015,383	454,236	200,000	750,000

article	R/A	free cash	other funds	revolving Auth	auth to borrow
S2			125,410		
S3		124,250			
S4		72,400			
S5		115,081			
S6		19,250			
S7		12,000			
A6				200,000	
A9	26,995,576	25,250	328,826		
A10	1,078,000				
A11	2.990.20				
A12		269,705			
A13		243,047			
A15		5,000			
A16		76,400			
A18		35,000			
A19		18,000			
A21					750,000
TOTALS	28,076,555.94	1,015,383	454,236	200,000	750,000

BURNCOAT POND DAM REPAIRS

BURNCOAT LANE · LEICESTER · MASSACHUSETTS

OCTOBER 24, 2017

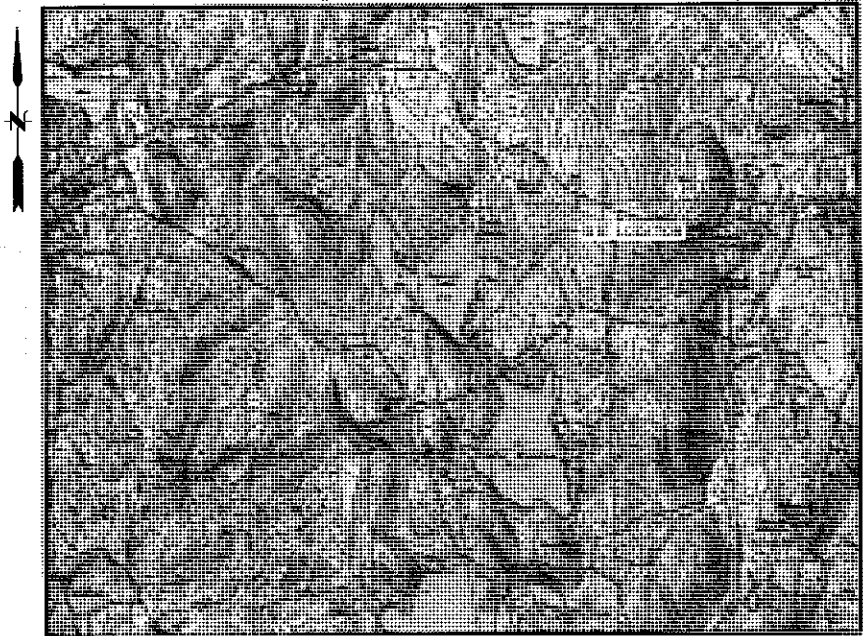
PREPARED FOR
BURNCOAT POND
WATERSHED DISTRICT
45 BURNCOAT LANE
LEICESTER, MA 01524



PREPARED BY
FUSS & O'NEILL
146 HARTFORD ROAD
MANCHESTER, CONNECTICUT 06040
860.646.2469
www.fundo.com

SHEET INDEX

SHEET No.	SHEET TITLE
GI-001	COVER SHEET
GI-002	GENERAL NOTES & CONSTRUCTION SEQUENCE
EX-101	EXISTING CONDITIONS PLAN
CE-101	EROSION & SEDIMENTATION CONTROL PLAN
CS-101	SITE PLAN
WET-01	RESOURCE AREA IMPACT PLAN
CD-501	CIVIL DETAILS



LOCATION MAP
SCALE: 1" = 2400'

Philip E. Forzley

PHILIP E. FORZLEY

MA P.E. #43247



PROJ. No.: 20071481 A30
DATE: OCTOBER 2017

GI-001

GENERAL NOTES

GENERAL NOTES

- ### WORK RESTRICTIONS & REGULATORY REQUIREMENTS

- EROSION AND SEDIMENT CONTROL NOTES

- DEMOLITION & CONSTRUCTION LAYOUT NOTES

- START OF CONSTRUCTION.

- EARTHWORK NOTES.

- ### UTILITY NOTES

- SITE RESTORATION NOTES

- ### CONSTRUCTION SEQUENCE

- LEGEND:

- MS VIEW: [REDACTED] LAYER STATE: [REDACTED]
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[illegible]

SEAD

SEAL



SCALE:

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GRAPHIC



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MANCHESTER, CONNECTICUT 06040
860.646.2469
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BURNCOAT POND WATERSHED DISTRICT

GENERAL NOTES & CONSTRUCTION SEQUENCE

BURNCOAT POND DAM REPAIRS

LEICESTER

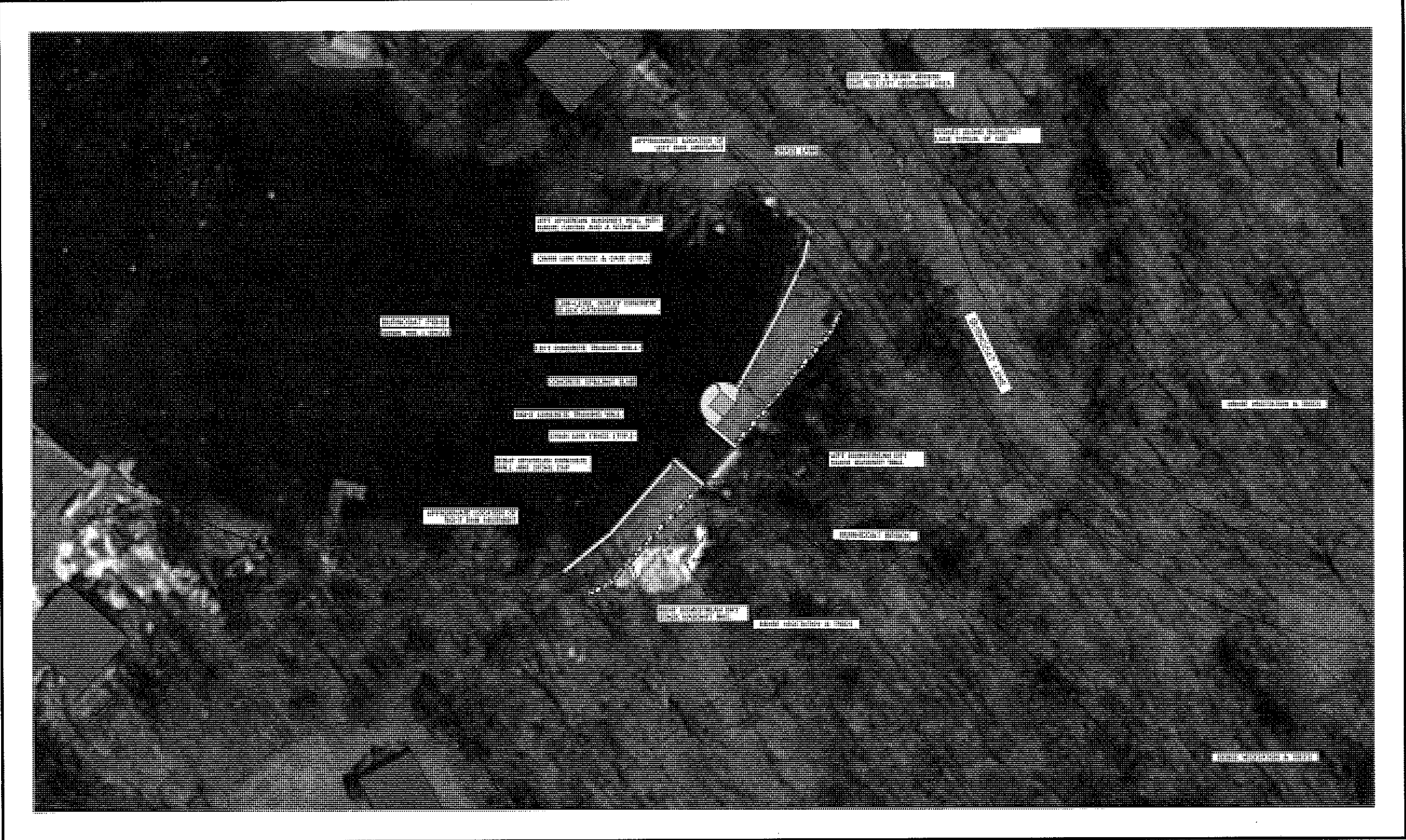
MASSACHUSETTS

PROJ. No.: 20071481.A30
DATE: 10/24/2017

DATE: 10/24/2017

GI-002

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LAYER STATE



REVISIONS		DESIGNER REVIEWER	
No.	DATE	DESCRIPTION	

SEAL

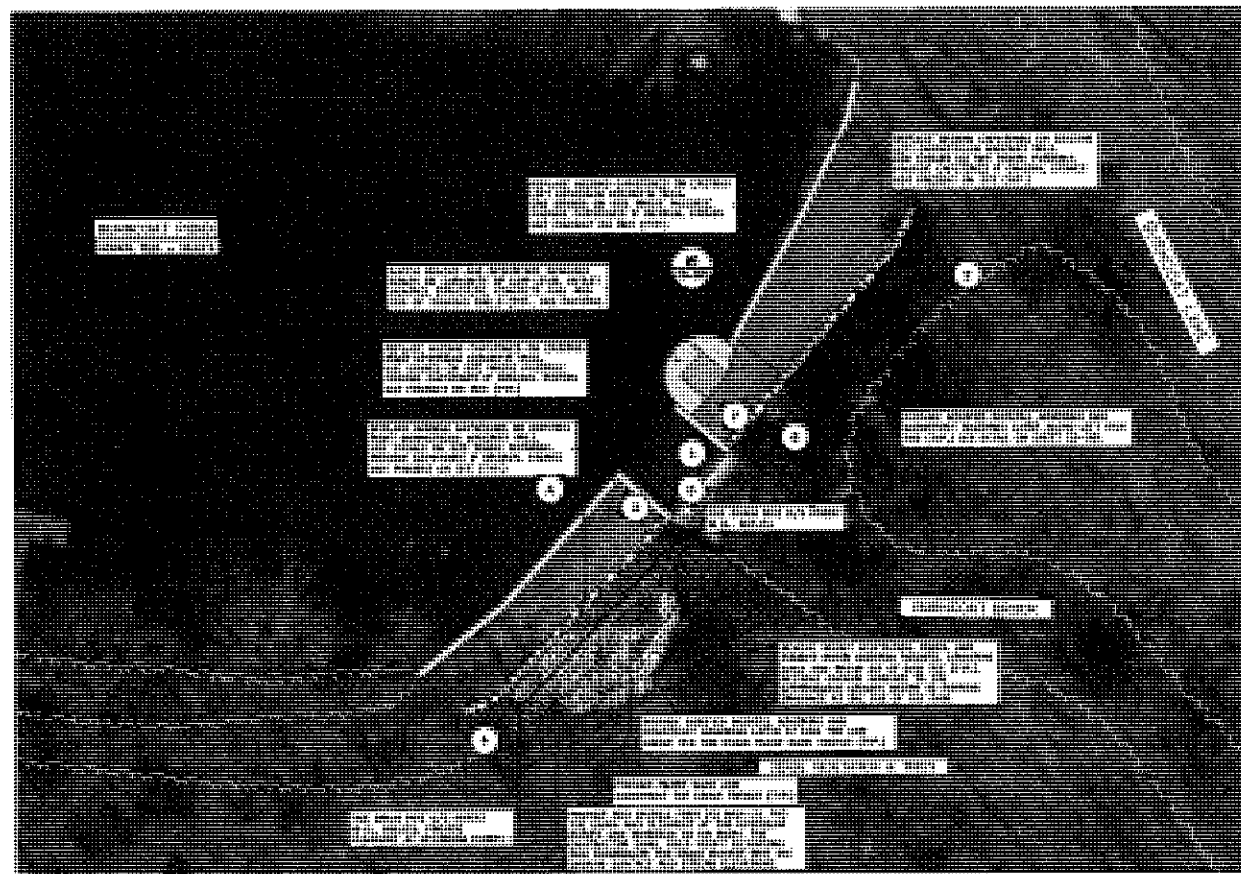
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SCALE:
HORZ.: 1" = 20'
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GRAPHIC SCALE

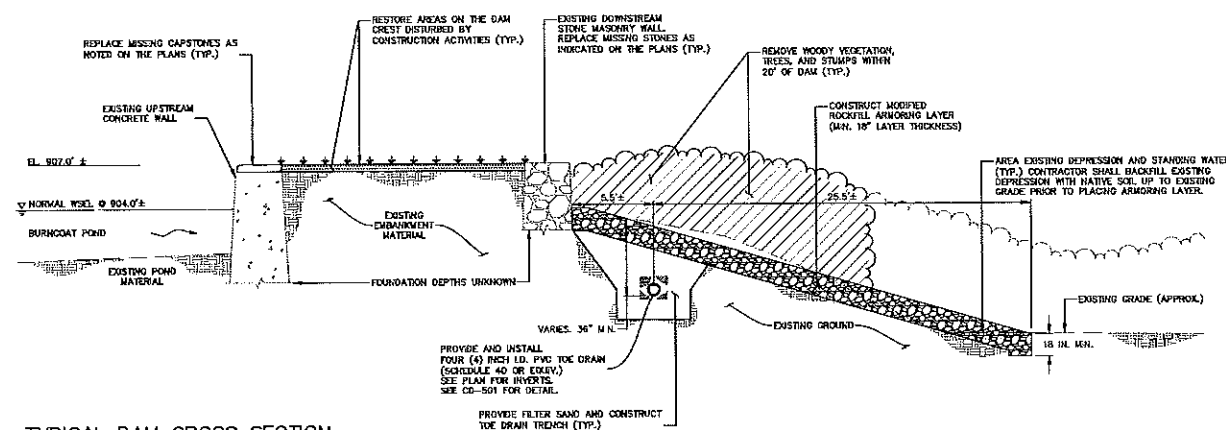
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MANCHESTER, CONNECTICUT 06040
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BURNCOAT POND WATERSHED DISTRICT
EXISTING CONDITIONS PLAN
BURNCOAT POND DAM REPAIR DESIGN
LEICESTER MASSACHUSETTS

PROJ No.: 20071481.A30
DATE: 10/24/2017
EX-101



PLAN VIEW
SCALE: 1" = 20'±



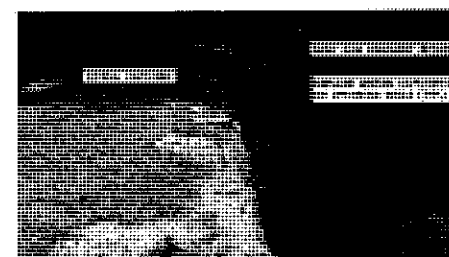
A TYPICAL DAM CROSS SECTION
SCALE: 1" = 5'



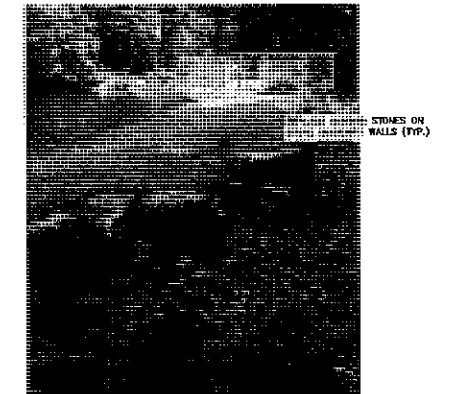
1 LEFT CONCRETE TRAINING WALL AND CONCRETE BLOCK GATE HOUSE
SCALE: NTS



2 OVERVIEW OF DAM FROM DOWNSTREAM
SCALE: NTS



3 TOP OF UPSTREAM RIGHT CONCRETE WALL (NOTE MISSING CAPSTONES)
SCALE: NTS



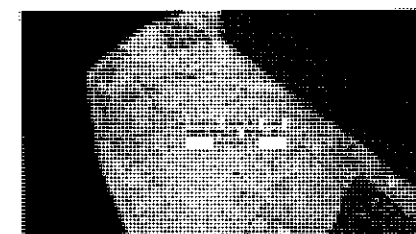
4 RIGHT DOWNSTREAM MASONRY WALL
SCALE: NTS



5 RIGHT DOWNSTREAM DAM TOE (AS VIEWED FROM SPILLWAY CREST)
SCALE: NTS



6 DOWNSTREAM DAM FACE AND TOE
SCALE: NTS



7 CONCRETE SPALLING AND CRACKS ON GATE VALVE STRUCTURE AND PAD
SCALE: NTS

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LAYER STATE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.				
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9.				
10.				

SEAL

SEAL



SCALE:
HORZ.: AS NOTED
VERT.:
DATING:
HORZ.:
VERT.:
GRAPHIC SCALE



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MANCHESTER, CONNECTICUT 06040
860.665.2469
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BURNCOAT POND WATERSHED ASSOCIATION
PROPOSED CONDITIONS PLAN
BURNCOAT POND DAM REPAIRS

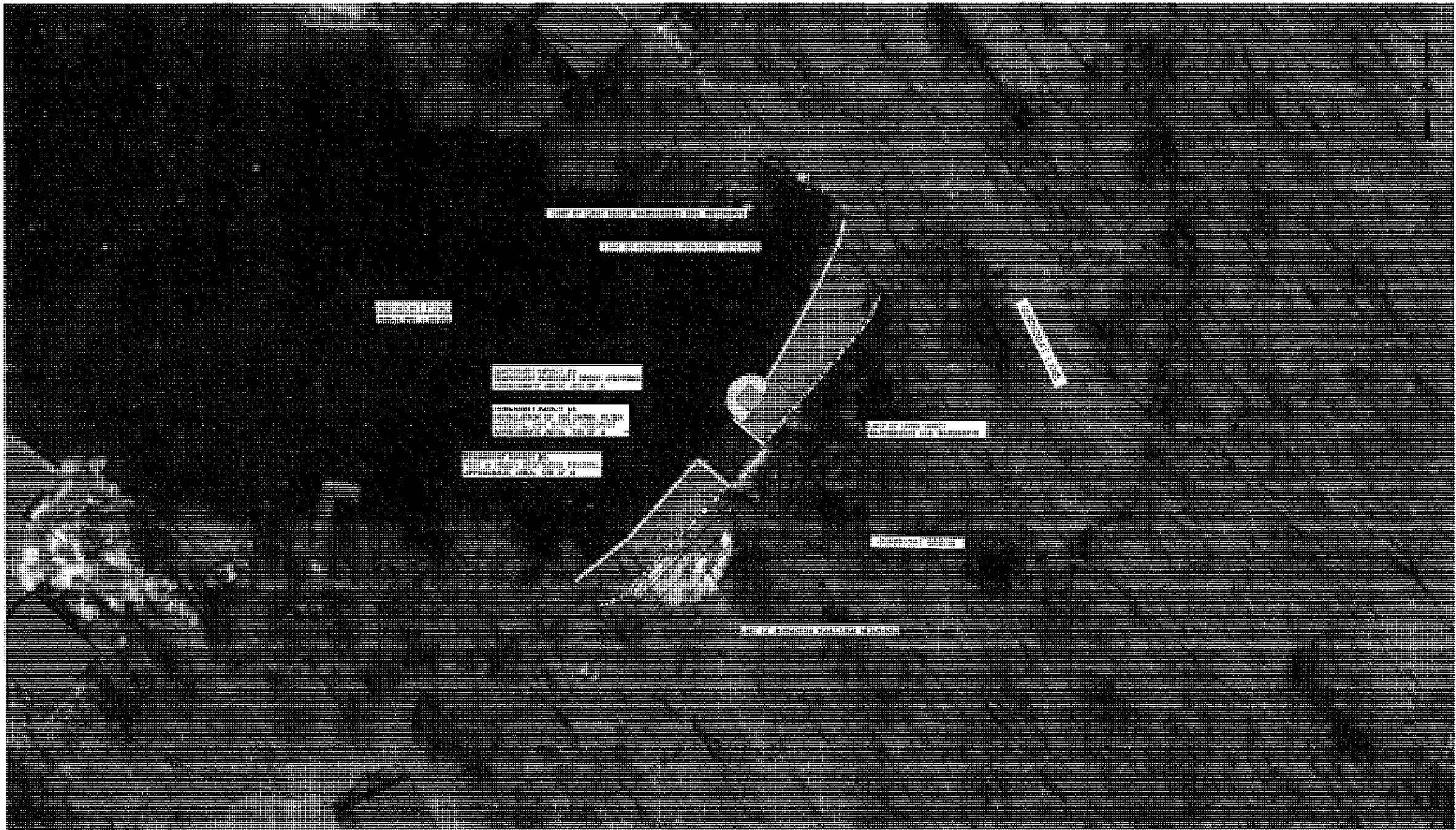
LEICESTER

MASSACHUSETTS

PROJ. No.: 20071481_A30
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CS-101

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LAYER STATE
LUS VIEW



LAYER STATE				
LUS VIEW				
No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SEAL

SCALE:

HORIZ: 1" = 20'

VERT: 1" = 20'

DATUM:

HORIZ: 1" = 20'

VERT: 1" = 20'

GRAPHIC SCALE

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BURNCOAT POND WATERSHED ASSOCIATION

RESOURCE AREA IMPACT PLAN

BURNCOAT POND DAM REPAIRS

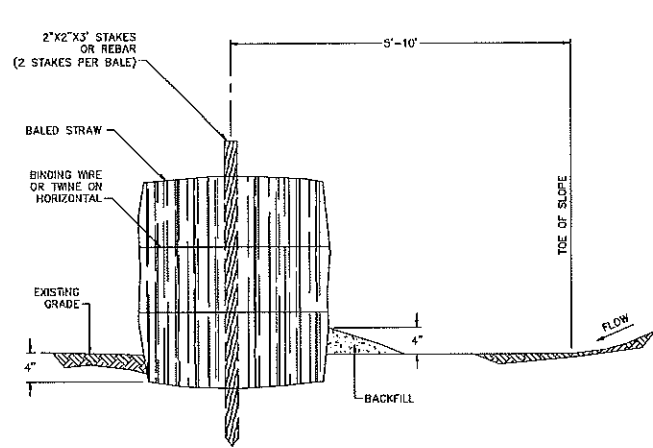
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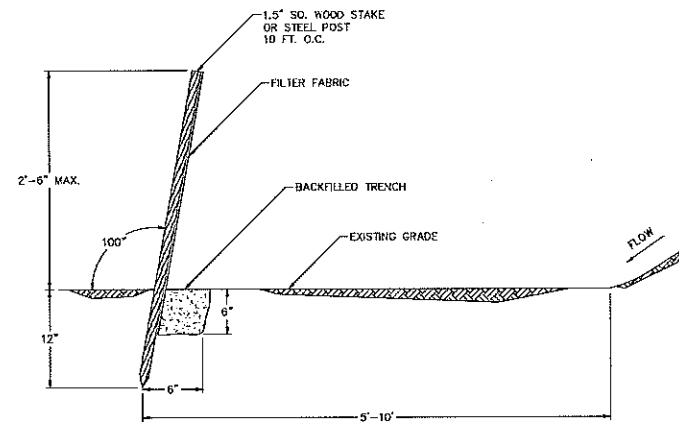
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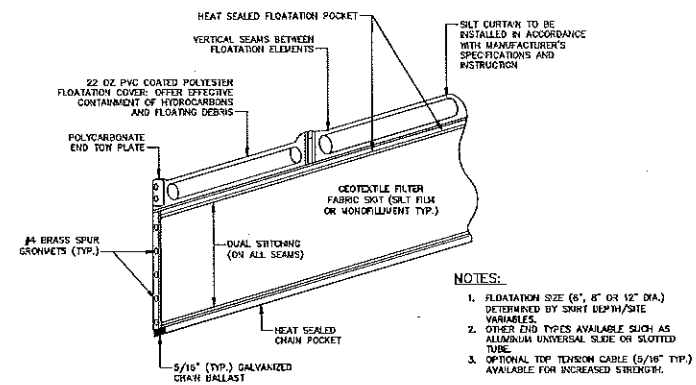
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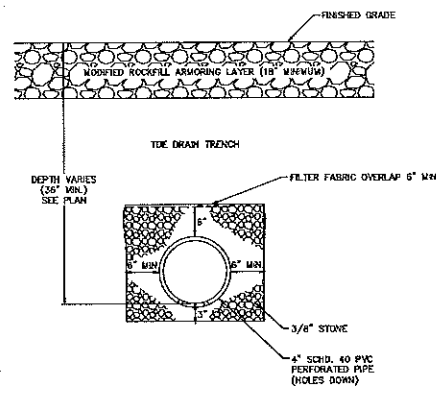
① STRAWBALE BARRIER
SCALE: NTS



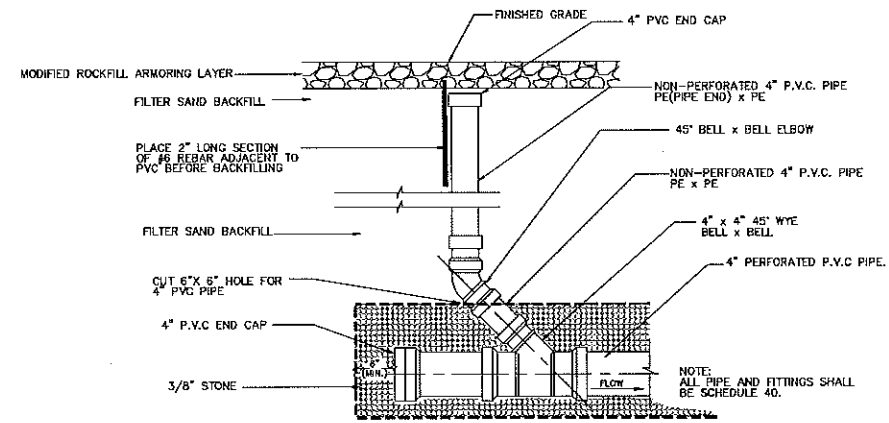
② SILT FENCE
SCALE: NTS



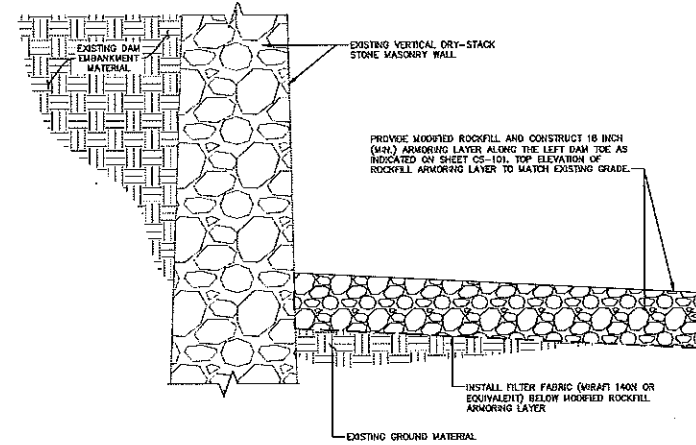
③ SILT CURTAIN
SCALE: NTS



④ TOE DRAIN
SCALE: NTS



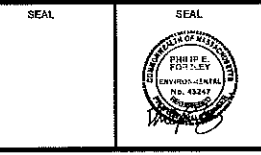
⑤ TOE DRAIN CLEANOUT
SCALE: NTS



⑥ ROCKFILL ARMORING LAYER - LEFT DAM TOE
SCALE: NTS

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No.	DATE	DESCRIPTION	DESIGNER	REVIEWER



SCALE:	HORIZ.: AS SHOWN
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DATUM:	
	HORIZ.:
	VERT.:
	GRAPHIC SCALE

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BURNCOAT POND WATERSHED DISTRICT
 CIVIL DETAILS
 BURNCOAT POND DAM REPAIRS
 LEICESTER MASSACHUSETTS

PROJ. No: 20071451 A30
 DATE: 10/24/2017
CD-501