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1/26/15 SHW

APPENDIX 5
Suggested Notice of Intent Format

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY - REGION 1
FIVE POST OFFICE SQUARE SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

Request for General Permit Authorization to Discharge Noncontact cooling Water
Notice of Intent (NOI) to be covered by the General Permit

Noncontact Cooling Water General Permit (NCCWGP)
NPDES General Permits No. MAG250000 and NHG250000

A. Facility Information

1. Indicated applicable General Permit for discharge:
MAG250000 X
NHG250000 []

2. Facility Information/Location:

Facility Name: Norfolk & Dedham Mutual Fire Insurance Company
Street/PO Box: 222 Ames Street City: Dedham
State: MA Zip Code: 02026
Latitude: 42°, 15', 05" Longitude: 71°, 10', 30"
Type of Business: Insurance Company
SIC Codes(s): 6361

3. Facility Mailing address (if different from Location Address):

Facility Name: Same as above
Street/PO Box City
State Zip Code

4. Facility Owner:

Name: Norfolk & Dedham Mutual Fire Insurance Company
E-mail: dmathieson@ndgroup.com
Street/PO Box: 222 Ames Street City: Dedham
State: MA Zip Code: 02026
Contact Person: Dean Mathieson Tel: 800-688-1825, x1225
Owner is (check one): Federal [] State [] Tribal [] Private X
Other (describe)

5. Facility Operator (if different from above):

Legal Name: Norfolk & Dedham Mutual Fire Insurance Company
E-mail: dmathieson@ndgroup.com
Street/PO Box: 222 Ames Street City: Dedham
State: MA Zip Code: 01756
Contact Person: Dean Mathieson Tel: 800-688-1825, x1225

6. Current permit coverage: yes X no []

- a) Has a prior NPDES permit (individual or general permit coverage) been granted for the discharge that is listed on the NOI? Yes X no [] If Yes, permit number: MAG250034
b) Is the facility covered by an individual NPDES permit for other discharges? yes [] no X
If yes, Permit Number:

c) Is there a pending NPDES application on file with EPA for this discharge? yes no X
 If yes, date of submittal: _____ and permit number, if available _____

7. Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water.
Map attached? X Exhibit 1 (attached)

B. Discharge Information (attach additional sheets as needed):

1. Name of receiving water into which discharge will occur: Charles River
 Freshwater X Marine Water
 State Water Quality Classification: Class B
 Type of Receiving Water Body (e.g., stream, river, lake, reservoir, estuary, etc.): River

2. Attach a line drawing or flow schematic showing water flow through the facility including sources of intake water, operations contributing to flow, treatment units, outfalls, and receiving water(s). **Line drawing or flow diagram attached?** X Exhibit 2 (attached)

3. Describe the discharge activities for which the owner/applicant is seeking coverage (e.g., building cooling, process line cooling, etc.) Storm drainage and cooling water

4. Number of Outfalls: 1. Latitude and Longitude to the nearest second for each Outfall. See EPA's siting tool at http://www.epa.gov/tri/reporting/siting_tool. Attach additional pages if necessary.

Outfall #	Latitude: 42°, 15', 07"	Longitude: 71°, 10', 31"
Outfall #	Latitude: N/A	Longitude: N/A
Outfall #	Latitude: N/A	Longitude: N/A

5. For each Outfall provide the following discharge information:

Outfall # 1

- a) Maximum Daily Flow: 0.144 MGD Average Monthly Flow: 0.079 MGD
NOTE: EPA will use the flow reported here as the facility's permitted effluent flow limit.
- b) Maximum Daily Temperature: 83 °F Average Monthly Temperature: 75.4 °F
- c) Maximum Monthly pH: 6.3 s.u. Minimum Monthly pH: 6.0 s.u.
- d) Outfall's discharge is: continuous X intermittent seasonal

Outfall # N/A

- a) Maximum Daily Flow _____ MGD Average Monthly Flow _____ MGD
NOTE: EPA will use the flow reported here as the facility's permitted effluent flow limit.
- b) Maximum Daily Temperature _____ °F Average Monthly Temperature _____ °F
- c) Maximum Monthly pH _____ s.u. Minimum Monthly pH _____ s.u.
- d) Outfall's discharge is: continuous intermittent seasonal

Outfall # N/A

- a) Maximum Daily Flow _____ MGD Average Monthly Flow _____ MGD
NOTE: EPA will use the flow reported here as the facility's permitted effluent flow limit.
- b) Maximum Daily Temperature _____ °F Average Monthly Temperature _____ °F
- c) Maximum Monthly pH _____ s.u. Minimum Monthly pH _____ s.u.
- d) Outfall's discharge is: continuous intermittent seasonal

6. Is the source of the NCCW potable water? yes no

If yes, EPA will calculate a Total Residual Chlorine effluent limit for your facility.

7. Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water : 8.3 MGD

Attach any calculation sheets used to support stream flow and/or dilution calculations.

8. For facilities that discharge to Massachusetts surface waters:

a) Submit the completed engineering calculation of the surface water temperature rise as shown in Attachment B of the General Permit. Calculation attached? Exhibit 3 (attached)

b) Does the discharge occur in an Area of Critical Environmental Concern (ACEC)? yes no

If yes, provide the name of ACEC _____

Note: See Part 3.4 and Appendix 1 of the General Permit for more information on ACEC.

C. Chemical Additives

1. Are any non-toxic neutralization and/or dechlorination chemicals used in the discharge(s)? yes no

2. If yes, attach a listing of each chemical used. Include the chemical name and manufacturer; maximum and average daily quantity used on a monthly basis, as well as the maximum and average daily expected concentrations (mg/l) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC₅₀ in percent for typically acceptable aquatic organism). N/A

3. Was the listing submitted with the facility's 2008 NCCWGP NOI? yes no N/A

D. NCCW Source Water Information

1. State the source of the NCCW (e.g., municipal water supply, private well, surface water withdrawal, etc.).

Source: Private well

Name of Source Water: N/A

2. Is the source water registered/permitted under MA Water Management Act or NHDES User Registration Rule (ENV WQ 2202)? Yes no If yes, registration number: V32007302

3. If the source water is groundwater (non-municipal well water), see Appendix 9 of the General Permit and submit effluent (and receiving water hardness) test results, as required in Part 5.4 of the General Permit.

Test results attached? Exhibit 4 (attached)

4. Does the facility use both a primary and backup source of NCCW? yes no If yes, **attach information** that identifies and explains the primary and backup sources of NCCW and how often the backup supply was used in the past three years.

E. Best Technology Available for Cooling Water Intake Structures (CWISs)

If the facility's discharge is covered by this General Permit and the facility **withdraws non-contact cooling water from a surface water**, you are subject to the BTA requirements at Part 4.2 of the General Permit.

1. Are you subject to the BTA requirements of the General Permit? yes no

a) If no, explain: Source water withdrawn from private well and skip to F.

b) If yes, was the facility-specific BTA description submitted with the facility's 2008 NCCW GP NOI?

yes no

c) If yes, does that description accurately describe the facility current operations and practices? yes no

2. If the facility is subject to the General Permit's BTA requirements and is requesting coverage under the NCCWGP for the first time, or if you answered "No" to question E.1.c. above, attach the facility-specific BTA description as required in Part 4.2 of the General Permit. For additional information and guidance, see Section IV of the Fact Sheet.

Include in your description:

- a) Measures to meet the General Permit Part 4.3.a general BTA requirements, including documentation that describes the facility's monitoring program for impinged fish and/or invertebrate; or the required alternative monitoring plan frequency and/or protocol.
- b) A characterization of the source water body's aquatic life habitat in the vicinity of each CWIS during the seasons when the CWIS may be in use.
- c) The attributes of the current CWIS.
- d) The design measures of the CWIS.
- e) The operation measures of the CWIS.
- f) The historical occurrence of impinged fish for the past five years.
- g) If applicable, a demonstration that the facility's intake rate is commensurate with a closed-cycle recirculation system.
- h) Other components to reduce impingement and/or entrainment of aquatic life.

3. Provide the following information for each CWIS to support your attached facility-specific BTA description:

- a) The design capacity of the of the CWIS _____MGD
- b) Maximum monthly average intake of the CWIS during the previous five years _____MGD
- c) The month in which this flow reported in 3.b. occurred _____
- d) The maximum through-screen design intake velocity _____feet/second (fps)

4. For facilities where the CWIS is located on a freshwater river or stream, provide the following information:

- a) The source water's annual mean flow in MGD as available from USGS or other appropriate source _____MGD
- b) The design intake flow as a % of the source water's annual mean flow _____ %
Attach calculations if equal to or less than 5% of annual mean flow.
- c) The source water's 7Q10 _____MGD
- d) The design intake flow as a percent of the source water's 7Q10 _____%

5. Provide a map showing the location of each cooling water intake structure; NCCW Outfall(s) and CWIS features referred to in the BTA description. **Map attached?**

F. Endangered Species Act Eligibility Information

Using the instructions in Appendix 2 of the NCCW GP, which of the following criteria apply to your facility? USFWS

Criteria: A X B C

1. If you selected USFWS criteria B, has consultation with the U.S. Fish and Wildlife Service been completed?
yes no N/A

2. If consultation with US Fish & Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is "not likely to adversely affect" listed species or critical habitat received?
yes no N/A

3. Attach documentation of ESA eligibility for USFWS as required at Part 3.4 and Appendix 2 of the General Permit.

Documentation attached? Yes, Exhibit 5

4. Please indicate if your facility **directly intakes water for non-contact cooling** from any of the following waterbodies:

- Merrimack River
- Connecticut River N/A
- Piscataqua River
- Taunton River

EPA will consult with the National Marine Fisheries Service on cooling water intakes covered under this permit in areas (in the above waterbodies) of the endangered Shortnose Sturgeon and Atlantic Sturgeon.

G. National Historic Properties Act Eligibility

1. Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility site or in proximity to the discharge? yes no X

2. Have any State or Tribal Historic Preservation Officers been consulted in this determination? yes no
If yes, attach the results of the consultation(s). N/A

3. Which of the three National Historic Preservation Act scenarios listed in Appendix 3, Section C have you met?
X 1 2 3

H. Supplemental Information

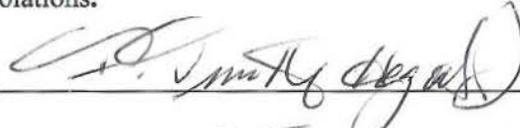
Please provide any supplemental information, including antidegradation review information applicable to new or increased discharges. Attach any analytical data used to support the application. Attach any certification(s) required by the General Permit.

I. Signature Requirements

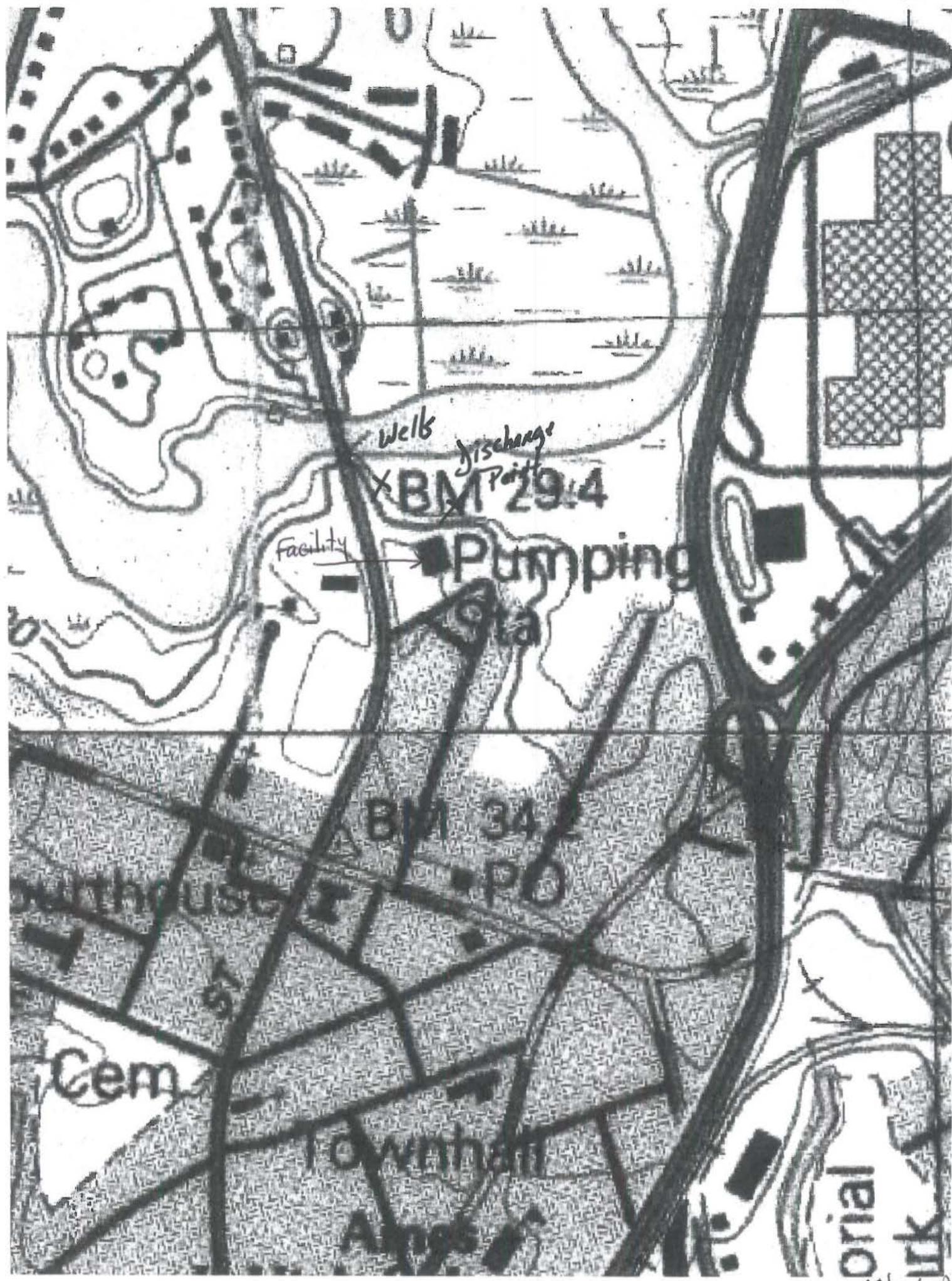
The NOI must be signed by the operator in accordance with the signatory requirements of 40 CFR § 122.22 (see below) including the following certification:

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the noncontact cooling water (NCCW) system; (2) the discharge consists solely of NCCW (to reduce temperature) and authorized pH adjustment and/or dechlorination chemicals; (3) the discharge does not come in contact with any raw materials, intermediate product, water product (other than heat) or finished product; (4) if the discharge of noncontact cooling water subsequently mixes with other wastewater (i.e. stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for noncontact cooling water; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

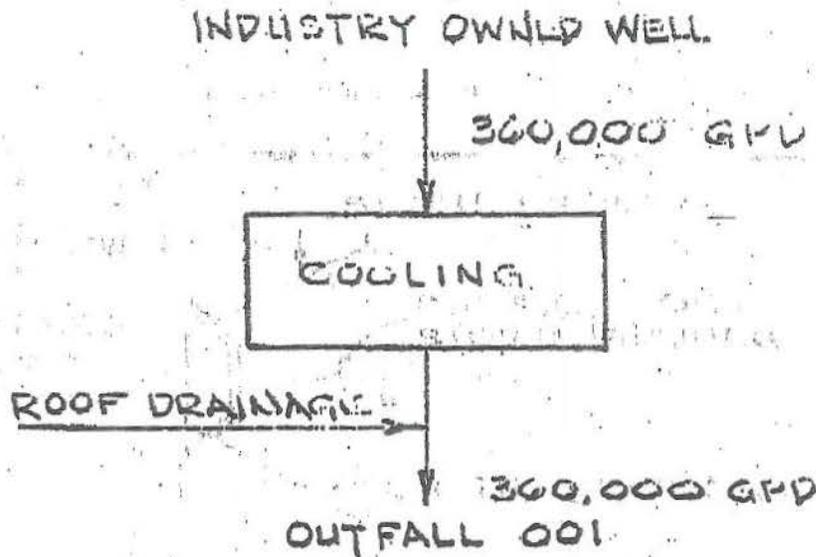
Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature  Date 1/21/15
 Printed Name and Title F. Timothy Heagy, Jr. CEO

- Federal regulations require this application to be signed as follows:
1. For a corporation, by a principal executive officer of at least the level of vice president;
 2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
 3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.



Plot from 6/1/04



I certify that this schematic of water flow accurately depicts our facility outfall at 222 Ames Street, Dedham, MA.

Robert G. Street 2/27/04
Robert G. Street, AIM, Division Manager

		NORFOLK & DEDHAM MUT. FIRE INS. CO. Dedham, MA	
		SCHEMATIC OF WATER FLOW	
ENR/D	PERMIT	SCALE NONE	
DATE	ISSUED FOR	CLIENT	JOB NO.
PROJECT	APPROVED BY	1928-16-SKPI	
IN CHARGE	APPROVED	MAIN CHAS. T. MAIN, INC. DESIGN • CONSULTING • SERVICE • PURCHASE	

Appendix 5

Request for General Permit Authorization to Discharge Noncontact Cooling Water
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**Engineering Calculation for Question B(8)(a)
Norfolk & Dedham Mutual Fire Insurance Company**

1. Solve for T_F

$$T_F = \frac{m_p T_p + m_r T_r}{m_p + m_r}$$

$$T_F = \frac{(.144 \text{ MGD} * 83^\circ\text{F}) + (8.3 \text{ MGD} * 40^\circ\text{F})}{(.144 + 8.3 \text{ MGD})}$$

$$T_F = \frac{(343.952 \text{ MGD} * ^\circ\text{F})}{8.444 \text{ MGD}}$$

$$T_F = 40.733^\circ\text{F}$$

2. Solve for ΔT_r

$$\Delta T_r = T_F - T_r$$

$$\Delta T_r = 40.733^\circ\text{F} - 40^\circ\text{F}$$

$$\Delta T_r = .733^\circ\text{F}$$

Industrial Analytical Services, Inc.

A Subsidiary of ETR Labs

Customer: Cadel Chemical & Supply Co.
174 Pleasant Street
Leominster, MA 01453

Date: 1/14/2015

Report#: 11315307

P.O.: verbal

Sample#: Norfolk & Dedham

Water Analysis

<u>Parameter</u>	<u>Results</u>	<u>MDL</u>
Antimony	ND	0.005
Calcium	54.35 mg/l	0.005
Cadmium	ND	0.006
Chromium	ND	0.005
Mercury	ND	0.005
Nickel	ND	0.005
Iron	0.38 mg/l	0.005
Silver	ND	0.005
Magnesium	10.94	0.005
Zinc	ND	0.005
Copper	0.05 mg/l	0.005
Arsenic	ND	0.005
Hexavalent Chromium	ND	0.005
Hardness	180.74 mg/l	0.005
Chloride	319.53 mg/l	1.000
pH	6.43	0 - 14

Test method - Inductively Coupled Plasma/Mass Spectroscopy EPA method 200.8

ND = Not Detected

Units = milligrams per liter = mg/L

MDL = Minimum Detection Level

The integrity of the sample and results are dependent on the quality of sampling. The results apply only to the actual sample tested. IAS Inc. shall be held harmless from any liability arising out of the use of such results.

60 Elm Hill Ave. Leominster, MA 01453 Phone 978-466-3422 Fax 978-466-3492



IPaC - Information, Planning, and Conservation System

Environmental Conservation Online System

<http://www.fws.gov>

Step 1

Trust Resources List

[/ipac/wizard/chooseLocation!](#)

[prepare.action](#)

Location

An online Endangered Species Act species list **IS** available below for your project area, represented by the office(s) listed:

Step 2

[/ipac/wizard/chooseActivities!](#)

[prepare.action](#)

Activities

New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 3301
(603) 223-2541
<http://www.fws.gov/newengland> (<http://www.fws.gov/newengland>)

Step 3

Trust resources list

The Endangered Species Act species list below is for planning purposes only -- it is not an official species list.

Step 4

Conservation measures

To save or print all Trust Resources lists on this page, click here:

[Save or Print Trust Resources List](#)

To request an official species list, click here:

[Request an Official Species list](#)

Project Location Map:



Note: The map reflects the map layers selected on the Step 1 Location page. To change what appears on this map, return to the Location page and adjust the map layers.

Project Counties:

Norfolk, MA

Project type: Wastewater Facility

Endangered Species Act Species List ([USFWS Endangered Species Program](#))

There are no listed species found within the vicinity of your project.

Don't see a species you expect to see? (f)

Critical habitats within your project area:

There are no critical habitats within your project area.

FWS National Wildlife Refuges ([USFWS National Wildlife Refuges Program](#))

There are no National Wildlife Refuges found within the vicinity of your project.

FWS Migratory Birds ([USFWS Migratory Bird Program](#))

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection / or unintentional resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S.