Codjer Lane and Horse Pond Road Water Main Improvements Notice of Intent

# WPA Form 3 DEP Transmittal X281956



Prepared For: Sudbury Water District December 2018

## Environmental 📨 Partners

A partnership for engineering solutions

Quincy Office:

1900 Crown Colony Drive, Suite 402, Quincy, MA 02169 TL 617.657.0200 • FX 617-657-0201 Hyannis Office: 396 North Street, Hyannis, MA 02601 TL 508.568.5103 • FX 508.568.5125

www.envpartners.com

Woburn Office: 18 Commerce Way, Suite 2000, Woburn, MA 01801 TL 781.281.2542 • FX 781.281.2543



December 11, 2018

Sudbury Conservation Commission Department of Public Works Building 275 Old Lancaster Road Sudbury, MA 01776

### RE: Sudbury Water District Codjer Lane and Horse Pond Road Water Main Improvements – Project #387-1803 Conservation Commission Notice of Intent Submittal

Dear Commissioners:

On behalf of the Sudbury Water District, Environmental Partners Group, Inc. (EP) has prepared a Notice of Intent for the Codjer Lane and Horse Pond Road Water Main Improvements in accordance with the Massachusetts Wetlands Protection Act (M.G.L. Chapter 131 Section 40), the Massachusetts Wetlands Protection Regulations (310 CMR 10.00), and the Town of Sudbury Wetland Bylaws. Please find the following documents included in this submittal:

- 1. DEP Transmittal Form and WPA Form 3 Notice of Intent
- GIS Mapping: USGS Quad Map; Estimated and Priority Habitats; Vernal Pools; FEMA Flood Zones; Soil Map and Legend
- 3. Plan Set Codjer Lane and Horse Pond Road Water Main Improvements
- 4. Pinebrook Consulting Wetlands Evaluation and Sketch
- 5. Certified Abutters List
- 6. Environmental Protection Measures
- 7. Stormwater Report and Checklist Form

### Project Description

This water main improvement project proposes work on two roads: Codjer Lane and Horse Pond Road. On Codjer Lane, there is approximately 1600' of existing 8" and 10" AC pipe. On Horse Pond Road, there is approximately 5000' of 8" and 10" AC pipe. The Sudbury Water District is proposing the abandonment and replacement of these lines to prevent future breaks and improve water service. This project proposes abandoning the mains on both streets in place and installing a new 12" DI main along the length of both streets. Please find a copy of the plan set for this project in Section 3. The plan set includes existing and proposed conditions and locations of resource areas, buffer zones, and erosion control measures.

The proposed alignments will run parallel to the existing mains, which would be left active during construction activities. The pipe will be installed by open trench method. Once

construction of the proposed water mains is complete, the disturbed areas will be restored to existing conditions.

In summary, the proposed work components consist of the following:

- Installing approximately 1600-ft of new 12-inch DI water main on Codjer Lane.
- Installing approximately 5000-ft of new 12-inch DI water main on Horse Pond Road.
- Abandoning the existing 8-inch and 10-inch AC water main on Codjer Lane.
- Abandoning the existing 8-inch and 10-inch AC water main on Horse Pond Road.
- Restoring the project area to existing conditions.

### Resource Areas:

A wetland evaluation/delineation was completed by Pinebrook Consulting in the vicinity of Codjer Ln and Horse Pond Rd. The boundary of the bordering vegetated wetlands (BVW) was flagged in the field and numbered within 100-ft of the project area. EP has also obtained additional information from the MassGIS website for Soils and Land Subject to Flooding. Three different resource areas were identified that conflict with the proposed work:

- 310 CMR 10.55 Bordering Vegetated Wetlands (BVW): On Codjer Ln. approximately 1050-ft of proposed water main is within the 100' Buffer Zone. On Horse Pond Rd. approximately 800-ft of proposed water main is within the 100' Buffer Zone.
- 310 CMR 10.57 Land Subject to Flooding: According to FEMA Q3 Flood Insurance Mapping on MassGIS, a section of Horse Pond Rd. is located within a Zone AE 100-yr flood plain. However, that section is one that does not contain proposed work. Proposed work is located on either side of Zone AE.
- 310 CMR 10.58 Riverfront Area associated with Hop Brook near Codjer Ln.: Approximately 200-ft of proposed water main on Codjer Ln. is within the 200-ft Riverfront Area Buffer. Riverfront Area associated with Dudley Brook near Horse Pond Rd.: Approximately 35-ft of proposed water main on Horse Pond Rd is within the 200-ft Riverfront Area Buffer.

As stated in the Pinebrook Wetlands Evaluation and according to mapping information on the MassGIS website, no estimated or priority habitats for rare wildlife/species nor any certified vernal pools were found in the vicinity of the project boundary. For additional information regarding resource areas, please see the Pinebrook Consulting Wetlands Evaluation in Section 4 of this submittal.

### Proposed Environmental Protection Measures

In order to mitigate impacts to bordering vegetated wetlands buffer zones and riverfront area the following environmental protection measures will be provided. A copy of the Environmental Protection Measures Specification has been included in Section 6.

- Erosion and sedimentation control devices (i.e. filter sock) will be installed as shown on the submitted design plans. These control devices will control sedimentation and erosion from the upland areas and also serve to define the upland limits of work. Erosion and sedimentation control devices will be inspected daily during the construction period.
- Silt sacks will be installed in each catch basin where construction period runoff sediment may travel to avoid transmission of sediment to downstream wetland resource areas.
- Stockpiles of aggregate materials (sand, gravel, and stone) will not be maintained on-site. Materials will be delivered on an as-needed basis.
- Disturbed areas will be loamed and seeded.

### Stormwater Standards

This project is subject to provision of the MassDEP Stormwater Management Standards. As stated in the Project Description, the project area will be restored to at least existing conditions. Grading and soil cover types will not be modified between existing and post construction. We have included a brief stormwater report and MassDEP Stormwater Checklist in Section 7 to meet the requirements of this provision.

If you require additional information or have any questions, please contact me at (617) 657-0200.

Very truly yours,

### ENVIRONMENTAL PARTNERS GROUP, INC.

Paul Millett, P.E. Project Manager

cc: Vincent Roy, Sudbury Water District

## SECTION 1

DEP Transmittal Form and WPA Form 3 — Notice of Intent



### Enter your transmittal number

X281956 **Transmittal Number** 

Your unique Transmittal Number can be accessed online:

http://www.mass.gov/eea/agencies/massdep/service/approvals/transmittal-form-for-payment.html **Massachusetts Department of Environmental Protection** 

Transmittal Form for Permit Application and Payment

1. Please type or print. A separate Transmittal Form must be completed for each permit application.

2. Make your check payable to the Commonwealth of Massachusetts and mail it with a copy of this form to: MassDEP, P.O. Box 4062, Boston, MA 02211.

3. Three copies of this form will be needed.

Copy 1 - the original must accompany your permit application. Copy 2 must accompany your fee payment. Copy 3 should be retained for your records

4. Both fee-paying and exempt applicants must mail a copy of this transmittal form to:

> MassDEP P.O. Box 4062 Boston, MA 02211

\* Note: For BWSC Permits, enter the LSP.

		-		
A. Permit Information				
WPA Form 3		Notice of Intent	t	
1. Permit Code: 4 to 7 character code from permit i	nstructions	2. Name of Permit	Category	
Other - Water Main Installation			0 /	
3. Type of Project or Activity				
B. Applicant Information – Firm o	or Individua			
Sudbury Water District				
1. Name of Firm - Or, if party needing this appro	val is an individua	al enter name below	/:	
······································				
2. Last Name of Individual	3. First	Name of Individual		4. MI
345 Boston Post Road, Suite A				
5. Street Address				
Sudbury	MA	01776	978-443-6602	
6. City/Town	7. State	8. Zip Code	9. Telephone #	10. Ext. #
Vincent J. Roy		vroy@sudbury	water.com	
11. Contact Person		12. e-mail address		
C. Facility, Site or Individual Requ	uiring Appi	roval		
See Attached	• • • •			
1. Name of Facility, Site Or Individual				
2. Street Address				
3. City/Town	4. State	5. Zip Code	6. Telephone #	7. Ext. #
8. DEP Facility Number (if Known)	9. Federa	I I.D. Number (if Kn	own) 10. BWSC Track	ing # (if Known)
D. Application Prepared by (if diff	ferent from	Section B)*		
Environmental Dertagra Croup, Inc.		,		
1 Nome of Firm Or Individual				
1. Name of Firm Of Individual				
2. Auguss Mohurn	MA	01801	617-657-0276	
		5 Zin Code	6 Telephone #	7 Evt #
5. Oity/ I UWII	4. Sidle	5. Zip Coue	o. Telephone #	1. ⊑XI. #

### E. Permit - Project Coordination

1. Is this project subject to MEPA review? yes no If yes, enter the project's EOEA file number - assigned when an Environmental Notification Form is submitted to the MEPA unit:

### F. Amount Due

**Special Provisions:** 

Paul Millett

8. Contact Person

DEP Use Only

- Permit No:
- Rec'd Date:

Reviewer:

- Hardship Request payment extensions according to 310 CMR 4.04(3)(c). Alternative Schedule Project (according to 310 CMR 4.05 and 4.10). 3. 4.
  - Homeowner (according to 310 CMR 4.02).

Check Number

**Dollar Amount** 

Fee Exempt (city, town or municipal housing authority)(state agency if fee is \$100 or less).

There are no fee exemptions for BWSC permits, regardless of applicant status.

Date

9. LSP Number (BWSC Permits only)

EOEA File Number

1.

2.



### Attachment for Transmittal Form for Permit Application and Payment

C. Facility, Site or Individual Requiring Approval

### **Horse Pond Road**

Trevor Way to Peakham Road Sudbury, MA 01776 Telephone #: N/A DEP Facility Number: N/A Federal I.D. Number: Unknown BWSC Tracking #: Unknown

#### **Codjer Lane**

Union Avenue to Concord Road Sudbury, MA 01776 Telephone #: N/A DEP Facility Number: N/A Federal I.D. Number: Unknown BWSC Tracking #: Unknown



### Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

**A. General Information** 

### 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 Sudbury 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.

See Attached			
a. Street Address		b. City/Town	c. Zip Code
Latitude and Lo	ngitude:	d. Latitude	e. Longitude
f. Assessors Map/P	lat Number	g. Parcel /Lot Number	
Applicant:			
Vincent		Roy	
a. First Name		b. Last Name	
Sudbury Water	District		
c. Organization			
345 Boston Pos	st Road, Suite A		
Sudhury		MA	01776
e. City/Town		f. State	a. Zip Code
978-443-6602		vrov@sudburvwater.c	3. <u>–</u> ., 2000
h. Phone Number	i. Fax Number	i Email Address	
Property owner	(required if different from a	applicant): Check if r	more than one owner
Property owner a. First Name c. Organization	(required if different from a	applicant): Check if r	more than one owner
Property owner <ul> <li>a. First Name</li> <li>c. Organization</li> <li>d. Street Address</li> </ul>	(required if different from a	applicant): Check if r	more than one owner
Property owner a. First Name c. Organization d. Street Address e. City/Town	(required if different from a	applicant): Check if r b. Last Name f. State	more than one owner
Property owner <ul> <li>a. First Name</li> <li>c. Organization</li> <li>d. Street Address</li> <li>e. City/Town</li> <li>h. Phone Number</li> </ul>	(required if different from a	applicant): Check if r b. Last Name f. State j. Email address	more than one owner
Property owner <ul> <li>a. First Name</li> <li>c. Organization</li> <li>d. Street Address</li> <li>e. City/Town</li> <li>h. Phone Number</li> <li>Representative</li> </ul>	(required if different from a	applicant): Check if r b. Last Name f. State j. Email address	more than one owner
Property owner <ul> <li>a. First Name</li> <li>c. Organization</li> <li>d. Street Address</li> <li>e. City/Town</li> <li>h. Phone Number</li> <li>Representative</li> <li>Paul</li> </ul>	(required if different from a	applicant): Check if r b. Last Name f. State j. Email address Millett	more than one owner
Property owner a. First Name c. Organization d. Street Address e. City/Town h. Phone Number Representative Paul a. First Name	(required if different from a	applicant): Check if r b. Last Name f. State f. State j. Email address Millett b. Last Name	more than one owner
Property owner a. First Name c. Organization d. Street Address e. City/Town h. Phone Number Representative Paul a. First Name Environmental F	(required if different from a	applicant): Check if r b. Last Name f. State j. Email address Millett b. Last Name	more than one owner
Property owner a. First Name c. Organization d. Street Address e. City/Town h. Phone Number Representative Paul a. First Name Environmental F c. Company	(required if different from a	applicant): Check if r b. Last Name f. State j. Email address Millett b. Last Name	more than one owner
Property owner a. First Name c. Organization d. Street Address e. City/Town h. Phone Number Representative Paul a. First Name Environmental F c. Company 18 Commerce V	(required if different from a	applicant): Check if r b. Last Name f. State j. Email address Millett b. Last Name	more than one owner
Property owner a. First Name c. Organization d. Street Address e. City/Town h. Phone Number Representative Paul a. First Name Environmental F c. Company 18 Commerce V d. Street Address Wishurs	(required if different from a	applicant): Check if r b. Last Name	more than one owner
Property owner a. First Name c. Organization d. Street Address e. City/Town h. Phone Number Representative Paul a. First Name Environmental F c. Company 18 Commerce V d. Street Address Woburn a. City/Town	(required if different from a	applicant): Check if r b. Last Name f. State j. Email address Millett b. Last Name Millett b. Last Name	more than one owner
Property owner a. First Name c. Organization d. Street Address e. City/Town h. Phone Number Representative Paul a. First Name Environmental F c. Company 18 Commerce V d. Street Address Woburn e. City/Town 617-657-0276	(required if different from a	applicant): Check if r b. Last Name f. State j. Email address Millett b. Last Name Millett b. Last Name Millett c. State c. MA f. State c. MA	more than one owner g. Zip Code

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

a. Total Fee Paid

b. State Fee Paid

c. City/Town Fee Paid

4



### Massachusetts Department of Environmental Protection Provided by MassDEP:

Bureau of Resource Protection - Wetlands

## WPA Form 3 – Notice of Intent

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

MassDEP File Number
Document Transaction Number
Sudbury
City/Tours

	City/Town
A. General Information (continued)	
. General Project Description:	
See Attached	
a. Project Type Checklist: (Limited Project Types se	ee Section A. 7b.)
1. 🗌 Single Family Home	2. 🗌 Residential Subdivision
3. Commercial/Industrial	4. Dock/Pier
5. 🛛 Utilities	6. 🗌 Coastal engineering Structure
7. 🗌 Agriculture (e.g., cranberries, forestry)	8. Transportation
9. 🗌 Other	
b. Is any portion of the proposed activity eligible to b	e treated as a limited project (including Ecologic
If yes, describe which lim	ited project applies to this project. (See 310 CMF
1. X Yes No 10.24 and 10.53 for a cor	nplete list and description of limited project types
310 CMR 10.53(3)(d) - The construction of under	ground utilities such as water lines.
If the proposed activity is eligible to be treated as CMR10 24(8) 310 CMR 10 53(4), complete and	an Ecological Restoration Limited Project (310 attach Appendix A: Ecological Restoration Limite
Project Checklist and Signed Certification.	
. Property recorded at the Registry of Deeds for:	
See Attached	
a. County	b. Certificate # (if registered land)
c. Book	d. Page Number
Duffer Zona & Desource Area Imi	

- 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.



#### Provided by MassDEP: **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

MassDEP File Number

Document Transaction Number Sudbury City/Town

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

	Resou	r <u>ce Area</u>	Size of Proposed Alteration	Proposed Replacement (if any)	
For all projects	a. 🗌	Bank	1. linear feet	2. linear feet	
affecting other	b. 🖂	Bordering Vegetated	See Attached		
Resource Areas, please attach a		Wetland	1. square feet	2. square feet	
narrative explaining how the resource	c. 🗌	Land Under Waterbodies and	1. square feet	2. square feet	
area was delineated.		vvaterways	3. cubic yards dredged		
	<u>Resou</u>	<u>ce Area</u>	Size of Proposed Alteration	Proposed Replacement (if any)	
	d. 🗌	Bordering Land			
		Subject to Flooding	1. square feet	2. square feet	
			3. cubic feet of flood storage lost	4. cubic feet replaced	
	e. 🗌	Isolated Land Subject to Flooding			
			1. square reet		
			2. cubic feet of flood storage lost	3. cubic feet replaced	
	f 🕅	Piverfront Area	See Attached		
	1.	Riverioni Alea	1. Name of Waterway (if available) - <b>sp</b>	ecify coastal or inland	
2. Width of Riverfront Area (check one):		a (check one):			
		25 ft Designated I	Densely Developed Areas only		
		☐ 100 ft - New agricu	ltural projects only		
		200 ft All other pro	ojects		
	3.	Total area of Riverfront A	rea on the site of the proposed proj	ect: See Attached	
				square feet	
	4.	Proposed alteration of the	e Riverfront Area:		
	a. 1	total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.	
	5.	Has an alternatives analy	sis been done and is it attached to t	this NOI? □ Yes ⊠ No	
		,			
	6.	Was the lot where the act	ivity is proposed created prior to Au	igust 1, 1996? ⊠ Yes 🗌 No	
:	3. 🗌 Co	astal Resource Areas: (Se	ee 310 CMR 10.25-10.35)		
				_	

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



#### Provided by MassDEP: 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

MassDEP File Number

**Document Transaction Number** Sudbury

City/Town

### 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		<u>Resou</u>	rce Area	Size of Propose	d Alteration	Proposed Replacement (if any)
transaction number (provided on your receipt page) with all		а. 🗌	Designated Port Areas	Indicate size u	nder Land Unde	r the Ocean, below
		b. 🗌	Land Under the Ocean	1. square feet		
information you				2. cubic yards dredg	jed	
Department.		c. 🗌	Barrier Beach	Indicate size und	der Coastal Bea	ches and/or Coastal Dunes below
		d. 🗌	Coastal Beaches	1. square feet		2. cubic yards beach nourishment
		e. 🗌	Coastal Dunes	1. square feet		2. cubic yards dune nourishment
				Size of Propose	d Alteration	Proposed Replacement (if any)
		f. 🗌	Coastal Banks	1. linear feet		
		g. 🗌	Rocky Intertidal Shores	1. square feet		
		h. 🗌	Salt Marshes	1. square feet		2. sq ft restoration, rehab., creation
		i. 🗌	Land Under Salt Ponds	1. square feet		
				2. cubic yards dredg	jed	
		j. 🗌	Land Containing Shellfish	1. square feet		
		k. 🗌	Fish Runs	Indicate size und Ocean, and/or ir above	der Coastal Ban hland Land Unde	ks, inland Bank, Land Under the er Waterbodies and Waterways,
		. 🗖	Land Subject to	1. cubic yards dredg	jed	
	4.	If the p	Coastal Storm Flowage estoration/Enhancement project is for the purpose of	1. square feet restoring or enhar	ncing a wetland	resource area in addition to the
		square amoun	e footage that has been ent it here.	ered in Section B.2	2.b or B.3.h abo	ve, please enter the additional
		a. squar	e feet of BVW		b. square feet of S	Salt Marsh
	5.	🗌 Pro	oject Involves Stream Cros	sings		
		a. numb	er of new stream crossings	<u> </u>	b. number of repla	acement stream crossings



### Massachusetts Department of Environmental Protection Provided by MassDEP:

Bureau of Resource Protection - Wetlands

## WPA Form 3 – Notice of Intent

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

MassDEP File Number

Document Transaction Number Sudbury City/Town

### 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

 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 🛛	If yes, include proof of mailing or hand delivery of NOI to:
	Natural Heritage and Endangered Species Program
	Division of Fisheries and Wildlife
2017	1 Rabbit Hill Road
b. Date of map	- westborough, wa orson

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. Dercentage/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

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

<sup>\*\*</sup> 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.



### Massachusetts Department of Environmental Protection Provided by MassDEP:

Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

MassDEP File Number

Document Transaction Number Sudbury City/Town

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

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

(c) MESA filing fee (fee information available at <u>http://www.mass.gov/dfwele/dfw/nhesp/regulatory\_review/mesa/mesa\_fee\_schedule.htm</u>). 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, <u>http://www.mass.gov/dfwele/dfw/nhesp/regulatory\_review/mesa/mesa\_exemptions.htm;</u> the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

$^{\circ}$	Separate MESA review engoing		
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:	North Shore - Hull to New Hampshire border:
Division of Marine Fisheries -	Division of Marine Fisheries -
Courth agost Maring Fishering Otation	North Shara Office

Southeast Marine Fisheries Station Attn: Environmental Reviewer 836 South Rodney French Blvd. New Bedford, MA 02744 Email: DMF.EnvReview-South@state.ma.us 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.

	Ma Bu M	reau of Resource Protection - Wetlands	Provided by MassDEP: MassDEP File Number	
	V	FA FUITI 5 - Notice of Intent	Document Transaction Number	
	Massachusetts Wetlands Protection Act M.G.L. c. 131, §40		Sudbury	
			City/Town	
	C.	Other Applicable Standards and Requirements	(cont'd)	
	4.	Is any portion of the proposed project within an Area of Critical Environ	mental Concern (ACEC)?	
Online Users: Include your document		a. Yes No If yes, provide name of ACEC (see instructions Website for ACEC locations). <b>Note:</b> electronic	to WPA Form 3 or MassDEP filers click on Website.	
transaction		b. ACEC		
number (provided on your receipt page) with all	5.	Is any portion of the proposed project within an area designated as an (ORW) as designated in the Massachusetts Surface Water Quality Sta	Outstanding Resource Water ndards, 314 CMR 4.00?	
supplementary		a. 🗌 Yes 🖾 No		
information you submit to the Department.	6.	Is any portion of the site subject to a Wetlands Restriction Order under Restriction Act (M.G.L. c. 131, $\S$ 40A) or the Coastal Wetlands Restrict	the Inland Wetlands ion Act (M.G.L. c. 130, § 105)?	
		a. 🗌 Yes 🖾 No		
	7.	Is this project subject to provisions of the MassDEP Stormwater Manag	jement Standards?	
		<ul> <li>a. Yes. Attach a copy of the Stormwater Report as required by th Standards per 310 CMR 10.05(6)(k)-(q) and check if:</li> <li>1. Applying for Low Impact Development (LID) site design cress Stormwater Management Handbook Vol. 2, Chapter 3</li> </ul>	e Stormwater Management edits (as described in	
		2. A portion of the site constitutes redevelopment		
		3. Proprietary BMPs are included in the Stormwater Manager	nent 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 sing equal to 4 units in multi-family housing project) with no disc	e-family houses or less than charge to Critical Areas.	
	D.	Additional Information		
		This is a proposal for an Ecological Restoration Limited Project. Skip S Appendix A: Ecological Restoration Notice of Intent – Minimum Require 10.12).	ection D and complete ed Documents (310 CMR	

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.

Provided by MassDEP:

Sudbury City/Town

MassDEP File Number

**Document Transaction Number** 



- 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.

Codjer Lane and Horse Pond Ro a. Plan Title	odjer Lane and Horse Pond Road Water Main Improvements Plan Title			
Environmental Partners Group, Ir	nc. Paul Millett, P.E.			
b. Prepared By	c. Signed and Stamped by			
	1"=40'			
d. Final Revision Date	e. Scale			
Sheets G-1,C-1,C-2,C-3,C-4,C-5	,CD-1,CD-2			
f. Additional Plan or Document Title	g. Date			
5. If there is more than one proplisted on this form.	] 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 Na	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



#### 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

n c	ied by Massuer.
٨	AassDEP File Number
Ē	Document Transaction Number
S	Sudbury
0	City/Town

Pro

### 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.

le project location.	
meens filon	12
1. Signature of Applicant	2. Date
3. Signature of Property Owner/(if different)	4. Date
Xaul / miller	121
5. Signature of Representative (if any)	6. Date

## 12/12/24/8 2. 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	n
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1. Location of Project:						
	See Attached	Sudbury				
	a. Street Address	b. City/Town				
	N/A	N/A	N/A d. Fee amount			
	c. Check number	d. Fee amount				
2.	Applicant Mailing Address:					
	Vincent	Roy				
	a. First Name	b. Last Name				
	Sudbury Water District					
	c. Organization					
	345 Boston Post Road, Suite A					
	d. Mailing Address					
	Sudbury	МА	01776			
	e. City/Town	f. State	g. Zip Code			
	978-443-6602	vroy@sudburywater.com				
	h. Phone Number i. Fax Number	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				

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

### 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.



### 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

B. Fees (continued)	Fees (continued)					
Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee			
-			<u>.</u>			
	Step 5/Te	otal Project Fee	:			
	Step 6/	Step 6/Fee Payments:				
	Total	Project Fee:	N/A a. Total Fee from Step 5			
	State share	of filing Fee:	N/A b. 1/2 Total Fee <b>less \$</b> 12.50			
	City/Town share	e of filling Fee:	N/A c. 1/2 Total Fee <b>plus</b> \$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.)



### Attachment for WPA Form 3 – Notice of Intent

#### A. General Information

1. Project Location

### Horse Pond Road

Trevor Way to Peakham Road Sudbury, MA 01776 Latitude: 42.3689 Longitude: -71.4375 Assessors Map/Plat Number: Unknown Parcel/Lot Number: 06/17

### **Codjer Lane**

Union Avenue to Concord Road Sudbury, MA 01776 Latitude: 42.3671 Longitude: -71.4197 Assessors Map/Plat Number: Unknown Parcel/Lot Number: 08/23

6. General Project Description

#### Project Description

This water main improvement project includes two roads: Codjer Lane and Horse Pond Road. Work will include the installation of a new 12" DI water main along each road, the abandonment of the existing AC main, replacement of existing water services, and installation of new hydrants. Normal operations of the existing water mains shall be maintained throughout the installation of the new water mains. On both streets, the water main will be installed by the open trench method. Below, please find a more detailed description of the work to be performed at each site. A plan set for this project can be found in Section 3.

### **Horse Pond Road**

Along Horse Pond Road, the work to be completed within the resource areas includes: abandonment of existing 8" and 10" AC water main, replacement of existing water services and curb stops, installation of new hydrants, and the installation of approximately 5000' of 12" DI water main including values and appurtenances.

### **Codjer Lane**

Along Codjer Lane, the work to be completed within the resource areas includes: abandonment of existing 8" and 10" AC water main, replacement of existing water services and curb stops, installation of new hydrants, and the installation of approximately 1700' of 12" DI water main including valves and appurtenances.

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8. Property Recorded at the Registry of Deeds for:

### Horse Pond Road (100 Horse Pond Road)

- a. County: Middlesex
  b. Certificate # (if registered land):
  c. Book: 26733
  d. Page Number: 576
  Codjer Lane (57 Codjer Lane)
  a. County: Middlesex
  b. Certificate # (if registered land):
  c. Book: 18696
- d. Page Number: 498

#### B. Buffer Zone & Resource Area Impacts

2. Inland Resource Areas

#### b. Bordering Vegetated Wetlands

<u></u>		
Location	Size of Proposed Alteration (S.F.)	Proposed Replacement (if any) (S.F.)
Horse Pond Road	5,200	5,200
Codjer Lane	7,000	7,000

#### f. Riverfront Area

Location	Waterway	Total Riverfront Area (S.F.)	Proposed Alteration (S.F.)	S.F. within 100 ft	S.F. between 100 ft. and 200 ft.
Horse Pond Road	Dudley Brook	200	200	0	200
Codjer Lane	Hop Brook	1,250	1,250	750	500

SECTION 2 GIS Mapping












Soils Legend					
Туре	Description				
2A	Pootatuck fine sandy loam, 0 to 3 percent slopes				
4A	Rippowam fine sandy loam, 0 to 3 percent slopes				
6A	Scarboro mucky fine sandy loam, 0 to 3 percent slopes				
8A	Limerick silt loam, 0 to 3 percent slopes				
30B	Raynham silt loam, 0 to 5 percent slopes				
32B	Wareham loamy fine sand, 0 to 5 percent slopes				
33B	Raypol silt loam, 0 to 5 percent slopes				
36A	Saco mucky silt loam, 0 to 1 percent slopes				
44A	Birdsall mucky silt loam, 0 to 1 percent slopes				
51A	Swansea muck, 0 to 1 percent slopes				
52A	Freetown muck, 0 to 1 percent slopes				
53A	Freetown muck, ponded, 0 to 1 percent slopes				
71B	Ridgebury fine sandy loam, 3 to 8 percent slopes, extremely stony				
73B	Whitman fine sandy loam, 0 to 5 percent slopes, extremely stony				
97A	Suncook loamy sand, 0 to 3 percent slopes				
98A	Winooski very fine sandy loam, 0 to 3 percent slopes				
99A	Occum very fine sandy loam, 0 to 3 percent slopes				
103B	Charlton-Hollis-Rock outcrop complex, 3 to 8 percent slopes				
103C	Charlton-Hollis-Rock outcrop complex, 8 to 15 percent slopes				
103D	Charlton-Hollis-Rock outcrop complex, 15 to 25 percent slopes				
104C	Hollis-Rock outcrop-Charlton complex, 3 to 15 percent slopes				
104D	Hollis-Rock outcrop-Charlton complex, 15 to 25 percent slopes				
105E	Rock outcrop-Hollis complex, 3 to 35 percent slopes				
106C	Narragansett-Hollis-Rock outcrop complex, 3 to 15 percent slopes				
106D	Narragansett-Hollis-Rock outcrop complex, 15 to 25 percent slopes				
223A	Scio very fine sandy loam, 0 to 3 percent slopes				
223B	Scio very fine sandy loam, 3 to 8 percent slopes				
251A	Haven silt loam, 0 to 3 percent slopes				
251B	Haven silt loam, 3 to 8 percent slopes				
253A	Hinckley loamy sand, 0 to 3 percent slopes				
253B	Hinckley loamy sand, 3 to 8 percent slopes				
253C	Hinckley loamy sand, 8 to 15 percent slopes				
253D	Hinckley loamy sand, 15 to 25 percent slopes				
253E	Hinckley loamy sand, 25 to 35 percent slopes				
254A	Merrimac fine sandy loam, 0 to 3 percent slopes				
254B	Merrimac fine sandy loam, 3 to 8 percent slopes				
254C	Merrimac fine sandy loam, 8 to 15 percent slopes				
255A	Windsor loamy sand, 0 to 3 percent slopes				
255B	Windsor loamy sand, 3 to 8 percent slopes				
255C	Windsor loamy sand, 8 to 15 percent slopes				
256A	Deerfield loamy sand, 0 to 3 percent slopes				
256B	Deerfield loamy sand, 3 to 8 percent slopes				
259A	Carver loamy coarse sand, 0 to 3 percent slopes				
259B	Carver loamy coarse sand, 3 to 8 percent slopes				

259C	Carver loamy coarse sand, 8 to 15 percent slopes
260B	Sudbury fine sandy loam, 3 to 8 percent slopes
261A	Tisbury silt loam, 0 to 3 percent slopes
261B	Tisbury silt loam, 3 to 8 percent slopes
262B	Quonset sandy loam, 3 to 8 percent slopes
262C	Quonset sandy loam, 8 to 15 percent slopes
262D	Quonset sandy loam, 15 to 25 percent slopes
262E	Quonset sandy loam, 25 to 35 percent slopes
300B	Montauk fine sandy loam, 3 to 8 percent slopes
300C	Montauk fine sandy loam, 8 to 15 percent slopes
300D	Montauk fine sandy loam, 15 to 25 percent slopes
302B	Montauk fine sandy loam, 3 to 8 percent slopes, extremely stony
302C	Montauk fine sandy loam, 8 to 15 percent slopes, extremely stony
302D	Montauk fine sandy loam, 15 to 25 percent slopes, extremely stony
305B	Paxton fine sandy loam, 3 to 8 percent slopes
305C	Paxton fine sandy loam, 8 to 15 percent slopes
305D	Paxton fine sandy loam, 15 to 25 percent slopes
305E	Paxton fine sandy loam, 25 to 35 percent slopes
307B	Paxton fine sandy loam, 3 to 8 percent slopes, extremely stony
307C	Paxton fine sandy loam, 8 to 15 percent slopes, extremely stony
307D	Paxton fine sandy loam, 15 to 25 percent slopes, extremely stony
307E	Paxton fine sandy loam, 25 to 35 percent slopes, extremely stony
310A	Woodbridge fine sandy loam, 0 to 3 percent slopes
310B	Woodbridge fine sandy loam, 3 to 8 percent slopes
310C	Woodbridge fine sandy loam, 8 to 15 percent slopes
311B	Woodbridge fine sandy loam, 3 to 8 percent slopes, very stony
311C	Woodbridge fine sandy loam, 8 to 15 percent slopes, very stony
312B	Woodbridge fine sandy loam, 3 to 8 percent slopes, extremely stony
312C	Woodbridge fine sandy loam, 8 to 15 percent slopes, extremely stony
315B	Scituate fine sandy loam, 3 to 8 percent slopes
315C	Scituate fine sandy loam, 8 to 15 percent slopes
317B	Scituate fine sandy loam, 3 to 8 percent slopes, extremely stony
317C	Scituate fine sandy loam, 8 to 15 percent slopes, extremely stony
320B	Birchwood fine sandy loam, 3 to 8 percent slopes
325D	Newport channery fine sandy loam, 8 to 25 percent slopes
330B	Bernardston very fine sandy loam, 3 to 8 percent slopes
330C	Bernardston very fine sandy loam, 8 to 15 percent slopes
330D	Bernardston very line sandy loam, 15 to 25 percent slopes
330E	Bernardston very line sandy loam, 25 to 55 percent slopes
335B	Rainbow silt loam, 3 to 8 percent slopes
336B	Rainbow silt loam, 3 to 8 percent slopes, very stony
340B	Broadbrook very line sandy loam, 5 to 8 percent slopes
340D	Broadbrook very fine sandy loam, 8 to 25 percent slopes
341B	Broadbrook very line sandy loam, 5 to 8 percent slopes, very stony
341C	Broadbrook very line sandy loam, 8 to 15 percent slopes, very stony
341D	Broaubrook very fine sandy loam, 15 to 25 percent slopes, very stony
345A	Pittstown silt loam, 0 to 3 percent slopes

345B	Pittstown silt loam, 3 to 8 percent slopes
405B	Charlton fine sandy loam, 3 to 8 percent slopes
405C	Charlton fine sandy loam, 8 to 15 percent slopes
407B	Charlton fine sandy loam, 3 to 8 percent slopes, extremely stony
407C	Charlton fine sandy loam, 8 to 15 percent slopes, extremely stony
407D	Charlton fine sandy loam, 15 to 25 percent slopes, extremely stony
415B	Narragansett silt loam, 3 to 8 percent slopes
415C	Narragansett silt loam, 8 to 15 percent slopes
415D	Narragansett silt loam, 15 to 25 percent slopes
416B	Narragansett silt loam, 3 to 8 percent slopes, very stony
416C	Narragansett silt loam, 8 to 15 percent slopes, very stony
416D	Narragansett silt loam, 15 to 25 percent slopes, very stony
420B	Canton fine sandy loam, 3 to 8 percent slopes
420C	Canton fine sandy loam, 8 to 15 percent slopes
420D	Canton fine sandy loam, 15 to 25 percent slopes
422B	Canton fine sandy loam, 3 to 8 percent slopes, extremely stony
422C	Canton fine sandy loam, 8 to 15 percent slopes, extremely stony
422D	Canton fine sandy loam, 15 to 25 percent slopes, extremely stony
424B	Canton fine sandy loam, 3 to 8 percent slopes, extremely bouldery
424C	Canton fine sandy loam, 8 to 15 percent slopes, extremely bouldery
424D	Canton fine sandy loam, 15 to 25 percent slopes, extremely bouldery
600	Pits, gravel
601	Pits, quarry
602	Urban land
603	Urban land, wet substratum
621B	Scio-Urban land complex, 0 to 8 percent slopes
622C	Paxton-Urban land complex, 3 to 15 percent slopes
623C	Woodbridge-Urban land complex, 3 to 15 percent slopes
624B	Haven-Urban land complex, 0 to 8 percent slopes
626B	Merrimac-Urban land complex, 0 to 8 percent slopes
627C	Newport-Urban land complex, 3 to 15 percent slopes
629C	Canton-Charlton-Urban land complex, 3 to 15 percent slopes
631C	Charlton-Urban land-Hollis complex, 3 to 15 percent slopes, rocky
652	Udorthents, refuse substratum
653	Udorthents, sandy
654	Udorthents, loamy
655	Udorthents, wet substratum
656	Udorthents-Urban land complex

SECTION 3 Plan Set

# SUDBURY WATER DISTRICT SUDBURY, MASSACHUSETTS CODJER LANE AND HORSE POND ROAD WATER MAIN IMPROVEMENTS NOTICE OF INTENT



# PROJECT NUMBER: 387-1803 DECEMBER 2018

# LIST OF DRAWINGS

G-1	GENERAL NOTES AND LEGEND
(-1	CODJER LANE PROPOSED WATER MAIN
C-2	HORSE POND ROAD PROPOSED WATER MAIN I
C-3	HORSE POND ROAD PROPOSED WATER MAIN II
C-4	HORSE POND ROAD PROPOSED WATER MAIN III
C-5	HORSE POND ROAD PROPOSED WATER MAIN IV
CD-1	CIVIL DETAILS I
CD-2	CIVIL DETAILS II



NOI SUBMITTAL NOT FOR CONSTRUCTION DECEMBER 2018



SUDBURY WATER DISTRICT

VINCENT J. ROY, DIRECTOR OF OPERATIONS EDWARD MCAULIFFE, OPERATIONS MANAGER



# GENERAL NOTES:

- BASE MAP INFORMATION SHOWN ON CODJER LANE DESIGN SHEETS IS TAKEN FROM A 1. FIELD INSTRUMENT SURVEY PERFORMED BY ENVIRONMENTAL PARTNERS GROUP IN JULY AND AUGUST OF 2018. BASE MAP INFORMATION SHOWN ON HORSE POND ROAD DESIGN SHEETS IS TAKEN FROM A FIELD INSTRUMENT SURVEY PERFORMED BY MERRILL ENGINEERS AND LAND SURVEYORS IN AUGUST OF 2018. PROPERTY LINE AND WETLAND INFORMATION IS TAKEN FROM MASSGIS AND IS APPROXIMATE ONLY. ELEVATIONS ARE BASED ON NAVD 88 DATUM.
- IN AREAS WHERE CONSTRUCTION ACTIVITIES ARE ANTICIPATED TO OCCUR WITHIN PRIVATE 2. PROPERTY, PROPERTY LINE LOCATIONS ARE TO BE REVIEWED WITH THE SUDBURY WATER DISTRICT PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, OR EQUIPMENT ON DRAINAGE STRUCTURES. PRIVATE PROPERTY. WITHIN THE RIVERFRONT AREA, OR WITHIN 100 FEET OF WETLANDS, UNLESS DIRECTED TO DO SO BY THE CONTRACT DOCUMENTS.
- 4. NORTH DIRECTION SHOWN IS APPROXIMATE.
- ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE 5. LOCATION OF ALL EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY DIG SAFE AT LEAST 72 HOURS IN ADVANCE, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO ANY EXCAVATION.
- 6. DO NOT SCALE DRAWINGS UNLESS OTHERWISE NOTED. WRITTEN DIMENSIONS AND STATIONING SHALL PREVAIL. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE 7. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
- THE CONTRACTOR SHALL RESTORE ALL PUBLIC AND PRIVATE PROPERTY TO ITS 8. PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- 9. ALL EXISTING STORM DRAIN LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE. THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER, SHALL REPAIR ANY EXISTING STORM DRAIN LINES OR CULVERTS DAMAGED DURING CONSTRUCTION.
- 10. IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTIFICATION TO THE RESPECTIVE UTILITY COMPANY. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES.
- 11. ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. INJURY TO ANY SUCH STRUCTURE CAUSED BY, OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY AND THE OWNER.
- 12. THE CONTRACTOR IS TO TAKE SPECIAL CARE NOT TO DAMAGE TREES, BUSHES, PLANTS, FLOWERS, STONEWALLS, FENCES, ETC. WITHIN THE CONSTRUCTION AREA UNLESS THEY ARE NOTED TO BE REMOVED. CONTRACTOR SHALL REPLACE ALL DAMAGED ITEMS AT NO COST TO OWNER.
- 13. CONTRACTOR SHALL REMOVE AND REPLACE, OR REPAIR, ALL CURBS, SIDE WALKS, PAVEMENT AND OTHER ITEMS DAMAGED BY THEIR CONSTRUCTION ACTIVITIES TO AT LEAST THEIR ORIGINAL CONDITION, AND TO THE SATISFACTION OF THE SUDBURY WATER DISTRICT AND ENGINEER.
- 14. ANY TRAFFIC SIGNAL EQUIPMENT (LIGHTS, CONDUITS, LOOP DETECTORS, ETC.) DISTURBED SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AS DIRECTED BY THE OWNER AT THE CONTRACTOR'S EXPENSE.
- 15. THE CONTRACTOR SHALL INSTALL AND MAINTAIN TRAFFIC CONTROL DEVICES AS NECESSARY AND IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- 16. THE CONTRACTOR SHALL BE REQUIRED TO FURNISH AND MAINTAIN A TELEPHONE NUMBER WHERE THE CONTRACTOR CAN BE REACHED 24 HOURS A DAY, 7 DAYS A WEEK.
- 17. THE LOCATION AND LIMITS OF ALL ON-SITE WORK AND STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO THE SUDBURY WATER DISTRICT. THE CONTRACTOR SHALL LIMIT THEIR ACTIVITIES TO THESE AREAS.
- 18. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR WORK IN ROADWAYS AND FOR BLASTING. THE CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL PERMITS AS AN INTEGRAL PART OF THE WORK.
- 19. THE CONTRACTOR SHALL HANDLE GROUNDWATER, WHERE ENCOUNTERED, IN AN APPROVED MANNER. DURING ANY DEWATERING, THE CONTRACTOR SHALL USE STONE AROUND THE SUCTION END TO MINIMIZE DISCHARGE OF TRENCH MATERIALS. THE DISCHARGED WATER SHALL PASS THROUGH FILTER FABRIC.
- 20. NOT ALL SERVICE CONNECTIONS ARE SHOWN. IT SHOULD BE ASSUMED BY THE CONTRACTOR THAT ALL PROPERTIES HAVE AT LEAST 1 WATER AND GAS SERVICE.
- 21. THE CONTRACTOR SHALL PLACE TEMPORARY TRENCH PAVEMENT AS DESCRIBED IN DRAWINGS AND SPECIFICATIONS. PAVING OF ALL TRENCHES IS REQUIRED AT THE END OF EACH WORK WEEK.

# WATER MAIN NOTES:

- LOCATION OF ALL HYDRANTS SHALL BE VERIFIED BY THE SUDBURY FIRE DEPARTMENT, ENGINEER AND WATER DISTRICT PRIOR TO DIGGING FOR INSTALLATION.
- MINIMUM COVER OVER THE PROPOSED WATER MAIN, SERVICES, AND APPURTENANCES SHALL BE 5'-0" UNLESS OTHERWISE NOTED OR DIRECTED BY ENGINEER. WHERE NECESSARY, NEW WATER MAINS SHALL BE INSTALLED AT A GREATER DEPTH TO CLEAR OBSTACLES SHOWN ON THE DRAWINGS AT NO ADDITIONAL COST TO THE OWNER. MINIMUM CLEARANCES TO UTILITIES, AS SHOWN ON THE DRAWINGS SHALL BE MAINTAINED.
- 4. TEST PITS TO LOCATE EXISTING UTILITIES MAY BE ORDERED BY THE ENGINEER TO DETERMINE WHETHER TO RAISE OR LOWER THE PROPOSED WATER MAIN TO CLEAR EXISTING UTILITIES OR MEET EXISTING WATER MAINS.
- 5. EXISTING SERVICES SHALL NOT BE CONNECTED TO THE PROPOSED WATER MAIN UNTIL SATISFACTORY PRESSURE TEST AND DISINFECTION RESULTS HAVE BEEN RECEIVED BY THE ENGINEER.
- 6. EXISTING WATER MAINS OR SERVICES SHALL NOT BE ABANDONED WITHOUT THE APPROVAL OF THE OWNER. WATER SERVICE SHALL NOT BE INTERRUPTED MORE THAN 4 HOURS WITHOUT PRIOR APPROVAL OF THE OWNER.
- 7. ANY HYDRANT WHICH IS NOT IN SERVICE SHALL BE COVERED WITH A SECURELY FASTENED BURLAP BAG (OR EQUAL).
- 8. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES OR HYDRANTS WHICH HOLD WATER IN THE SYSTEM. THE OWNER WILL, ON 24 HOURS NOTICE FROM THE CONTRACTOR, OPEN AND/OR CLOSE ANY VALVES OR HYDRANTS REQUIRED FOR DRAINING OR ADMITTING WATER TO THE VARIOUS SECTIONS OF THE WATER MAINS.
- OPEN TRENCHES MUST BE BACK FILLED AT THE END OF THE WORKDAY OR 9 COVERED WITH STEEL PLATES AND RAMPED AS APPROVED BY THE ENGINEER AND TOWN.
- 10. THE CONTRACTOR IS REQUIRED TO NOTIFY AND COORDINATE WITH THE RESIDENTS ALL WATER MAIN SHUT DOWNS 24 HOURS IN ADVANCE.
- 11. ALL EXISTING WATER SERVICES SHALL BE CONNECTED TO PROPOSED WATER MAIN. NEW SERVICE TO RUN FROM MAIN TO LOCATION OF EXISTING CURB STOP (AT MINIMUM). REPLACE EXISTING CURB STOP AND BOX AND CONNECT TO EXISTING WATER SERVICE ON OWNER'S SIDE.
- 12. CONCRETE THRUST BLOCKS AND MEGALUG (OR APPROVED EQUAL) MECHANICAL JOINT RESTRAINTS ARE REQUIRED AT ALL TEES, BENDS, PLUGS AND HYDRANTS.
- 13. WATER SERVICES SHALL BE INSULATED IN AREAS WHERE CONNECTION TO EXISTING WATER SERVICE IS LESS THAN 4 FEET DEEP.
- 14. VALVE DECOMMISSIONING CLOSE VALVE, REMOVE AND LEGALLY DISPOSE OF GATE BOX, FILL HOLE, AND PAVE ACCORDING TO TYPICAL TRENCH DETAIL.
- 15. SLEEVES, NIPPLES, AND ACCESSORIES NECESSARY FOR CONNECTIONS BETWEEN EXISTING AND NEW PIPES MAY NOT BE SHOWN IN DETAIL. FURNISH AND INSTALL ITEMS NECESSARY FOR CONNECTING TO EXISTING MAINS AND AS INDICATED ON THE CONTRACT DOCUMENTS.
- 16. CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF ALL MATERIAL REMOVED FROM THE TRENCH DURING CUTTING AND CAPPING OF EXISTING WATER MAINS.
- 17. EXCEPT WHERE OTHERWISE DIRECTED, 12" MINIMUM CLEARANCE SHALL BE PROVIDED BETWEEN THE NEW MAINS AND OTHER UTILITIES WHERE THEY CROSS WHERE NEW MAIN PASSES UNDER UTILITIES, IT SHALL CROSS WITHOUT THE USE OF
- 18. DUST CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 19. THE OVERNIGHT STORAGE OF MATERIALS, SUPPLIES AND EQUIPMENT MUST BE APPROVED BY THE OWNER AND ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A "STAGING AREA" FOR PIPES, SUPPLIES, MATERIALS, AND EQUIPMENT.





1. ALL HYDRANT BRANCHES SHALL HAVE VALVES AS SHOWN ON THE HYDRANT DETAIL.

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			Designed by		THIS LINE IS ONE INCH	
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# LEGEND

# EXISTING

EDGE OF PAVEMENT PROPERTY LINE WATER MAIN DRAIN LINE GAS LINE WETLAND LIMITS 100' WETLAND BUFFER ZONE INTERMITTENT STREAM LIMITS 100' RIVERFRONT SETBACK 200' RIVERFRONT SETBACK STONE WALL TREELINE PICKET FENCE HYDRANT WATER VALVE GAS VALVE WATER SHUTOFF GAS SHUTOFF DUCTILE IRON REINFORCED CONCRETE POLYVINYL CHLORIDE ASBESTOS CEMENT COATED STEEL UTILITY POLE DECIDUOUS TREE BUSH/PLANTS MAILBOX (MB) SIGN

# PROPOSED ---- EROSION CONTROL

HYDRANT WATER VALVE

# JER LANE AND HORSE POND ROAD WATER MAIN IMPROVEMENTS N OF SUDBURY. MASSACHUSETTS

GENERAL NOTES AND LEGEND

Sheet No.		
	G-	1

FOR REVIEW



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MARK	DATE	DESCRIPTION	Approved by			



			Scale	1"=40'		CO
			Date	NOVEMBER 2018		
			Job No.	387-1803		ТО
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			Drawn by	SLC	AT FULL SCALE ON A	
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MARK	DATE	DESCRIPTION	Approved by			





NOTES:

1. SILT SACKS SHALL BE INSPECTED WEEKLY AND ACCUMULATED SILT REMOVED TO ALLOW CATCH BASIN TO FUNCTION PROPERLY.









## NOTES:

- DEWATERING BAG SIZE AND QUANTITY SHALL BE AS NEEDED TO ADEQUATELY FILTER ALL PUMP EFFLUENT FROM DEWATERING ACTIVITIES. CONTRACTOR SHALL PROVIDE A REDUNDANT BAG ON SITE AT ALL TIMES.
- 2. EACH BAG SHALL HANDLE A 2", 3", OR 4" DISCHARGE HOSE.
- 3. DISCHARGE HOSES CAN BE PLACED ALONG ANY EDGE BY MAKING A SMALL INCISION INTO THE FABRIC, INSERTING THE HOSE, AND THEN CLAMPING THE FABRIC TO THE HOSE VIA WIRE, TIES, CLAMP, ROPE OR SIMILAR TO CREATE A GOOD SEAL.
- 4. CONTRACTOR SHALL AVOID DISCHARGING MULTIPLE PIPES INTO ONE BAG.

# DEWATERING BAGS

				Scale	AS SHOWN		CC
				Date	NOVEMBER 2018		
				Job No.	387-1803		ТС
				Designed by		THIS LINE IS ONE INCH	
				Drawn by	SLC	AT FULL SCALE ON A	
				Checked by		22" X 34" DRAWING	
	MARK	DATE	DESCRIPTION	Approved by			

ODJER LANE AND HORSE POND ROAD WATER MAIN IMPROVEMENTS OWN OF SUDBURY, MASSACHUSETTS

CIVIL DETAILS II

Sheet No. CD-2

FOR REVIEW

# RESTORATION OF GROWTH

1. SEED MIX SHALL BE NEW ENGLAND CONSERVATION SEED MIX, FREE OF FERTILIZERS.

NOTES:

COMPACTED SUB-GRADE ----

FINISH GRADE

FINISH SUB-GRADE

# SECTION 4

Pinebrook Consulting Wetlands Evaluation and Sketch

# **PINEBROOK**



**CONSULTING** 

September 20, 2018

ENVIRONMENTAL PARTNERS GROUP 1900 Crown Colony Drive, Suite 402 Quincy, Massachusetts 02169 Attention: Sabrina Castaneda

RE: Wetland Evaluation/Delineation for Water Main Project Codjer Lane, Sudbury, Massachusetts

Dear Sabrina:

On July 30, 2018; at your request; I identified/delineated the wetland resource areas; as defined under the Massachusetts Wetlands Protection Act (M.G.L. Chapter 131, Section 40) and the associated regulations, 310 CMR 10.00 (Regulations) and the Town of Sudbury Wetlands Protection By-law (By-law); in the vicinity of the above-referenced roadway. Specifically, the entire length of Codjer Lane from Union Street to Concord Street. The purpose of the delineation was to identify any wetland resource areas within the jurisdictional 100 and/or 200-foot buffer zone of the work to be conducted for the Water Main Project proposed by the Town of Sudbury Department of Public Works (DPW). The following provides a description of my findings.

Four resource areas; defined under Section 10.54, 10.56 and 10.55 and 10.58 of the Regulations and under the By-law; as bank, land under a waterbody/waterway (LUWW), bordering vegetated wetland (BVW) and riverfront, respectively, were identified and flagged in the field. Hop Brook; a perennial stream; (River), is culverted under Union Street, at the intersection of Codjer Lane and Union Street. In this instance because the top of the bank of the River is well-defined it represents the boundary of the mean annual high water (MHW) associated with the River and is; therefore; the point from which the 100 and 200-foot riverfront areas are measured. Blue flags labeled MHWD-1 thru MHWD-3 and MHWDD-1 thru MHW DD-3 were placed in the field at the locations where the River is culverted under the Road so that if applicable the riverfront area can be shown extending into the Project location. An intermittent stream (bank/LUWW) exists on the opposite side of Union Street from the MHWD flags. Because the stream is within the BVW at this location it was not identified separately but was identified as part of, and is encompassed by; the WFA flag series. BVW's were identified on both sides of Codjer Lane and were identified with lettered/numbered flags series WFA-1 thru WFA-31; WFB-1 thru WFB-8; WFBB-1 thru WFBB-3; and WFC-1 thru WFC-1 thru WFC-3 (see attached sketch of the wetland flags). The BVW's along the roadway are fairly well-defined by the slope and/or the presence of wetland and transitional plant species such as: red maple (Acer rubrum), tupelo (Nyssa sylvatica), white pine (Pinus

strobus), black oak (Quercus velutina), Norway maple (Acer platanoides) and white oak (Quercus alba) trees/saplings; dogwood (Cornus stolonifera), arrow-wood (Viburnum dentatum), green brier (Smilax glauca), highbush blueberry (Vaccinium corymbosum), hop horn beam (Ostrya virginiana), bittersweet (Celastrus orbiculata) and multiflora rose (Rosa multiflora) in the shrub/vine layer; and cinnamon fern (Osmunda cinnamomea), sensitive fern (Onoclea sensibilis), royal fern (Osmunda regalis), poison ivy (Toxicodendron radicans), dewberry (Rubus hispidus), princess pine (Lycopodium obscurum), Massachusetts fern (Thelypteris simulata) and Canada mayflower (Malanthemum canadense) in the herbaceous layer. The BVW's are also characterized by other hydrological indicators such as standing water, buttressed root and saturated/hydric soils. No other resource areas were identified on Codjer Lane to Concord Street. It is my understanding that the wetland flags are to be surveyed in the field and put onto a Plan to be submitted with a Notice of Intent for the proposed work.

According to the most recent Massachusetts Natural Heritage Atlas (NHESP 14<sup>th</sup> Edition) dated August 1, 2017, the project location is not mapped as estimated and priority habitat for rare wildlife/species and there are no certified/mapped vernal pools within the project area.

If you have any questions regarding these findings and/or you need additional information, please feel free to call me at any time. I am glad I could assist you with this project and let me know if I can be of any help in the future.

Sincerely, PINEBROOK CONSULTING

Brooke Monroe Environmental Scientist

Page 2.



# **PINEBROOK**



# **CONSULTING**

September 21, 2018

ENVIRONMENTAL PARTNERS GROUP 1900 Crown Colony Drive, Suite 402 Quincy, Massachusetts 02169 Attention: Sabrina Castaneda

RE: Wetland Evaluation/Delineation for Water Main Project Horse Pond Road, Sudbury, Massachusetts

Dear Sabrina:

On August 21, 2018; at your request; I identified/delineated the wetland resource areas; as defined under the Massachusetts Wetlands Protection Act (M.G.L. Chapter 131, Section 40) and the associated regulations, 310 CMR 10.00 (Regulations) and the Town of Sudbury Wetlands Protection By-law (By-law); in the vicinity of the above-referenced roadway. Specifically, both sides of Horse Pond Road, from Peakham Road to #31 Horse Pond Road (north of Route 20). The purpose of the delineation was to identify any wetland resource areas within the jurisdictional 100 and/or 200-foot buffer zone of the work to be conducted for the Water Main Project proposed by the Town of Sudbury Department of Public Works (DPW). The following provides a description of my findings.

Four resource areas; defined under Section 10.54, 10.56 and 10.55 and 10.58 of the Regulations and under the By-law; as bank, land under a waterbody/waterway (LUWW), bordering vegetated wetland (BVW) and riverfront, respectively, were identified and flagged in the field. Dudley Brook; a perennial stream; (River) is culverted under Horse Pond Road (in the vicinity of #178 and #173 Horse Pond Road). In this instance because the top of the bank of the River is well-defined it represents the boundary of the mean annual high water (MHW) associated with the River and is; therefore; the point from which the 100 and 200-foot riverfront areas are measured. Blue flags labeled MHWA-1 thru MHWA-4 and MHWAA-1 thru MHWAA-3; MHWB-1 thru MHWB-3 and MHWBB-1 thru MHWBB-4 were placed on the banks of the River so that the riverfront areas that extend into the Project area can be shown. An intermittent stream; which exists in the vicinity of Noyes Lane and #213 Horse Pond Road; was identified with flags labeled TBA-1 thru TBA-5 and TBAA-1 thru TBAA-3. The top of the bank of the stream represents the boundary of the resource area (bank/LUWW) at this location. BVW's were identified on both sides of Horse Pond Road and were identified with lettered/numbered flags series BVWA-1 thru BVWA-4; BVWAA-1 thru BVWAA-4; BVWB-1 thru BVWB-3; BVWBB-1 thru BVWBB-6; BVWC-1 thru BVWC-8; BVWD-1 thru BVWD-4 and BVWE-1 thru BVWE-10 (see

attached sketch of the wetland flags). The BVW's along the roadway are fairly welldefined by the slope and/or the presence of wetland and transitional plant species such as: red maple (Acer rubrum), tupelo (Nyssa sylvatica), white pine (Pinus strobus), black oak (Quercus velutina), Norway maple (Acer platanoides) and white oak (Ouercus alba) trees/saplings; dogwood (Cornus stolonifera), arrow-wood (Viburnum dentatum), green brier (Smilax glauca), highbush blueberry (Vaccinium corymbosum), hop horn beam (Ostrya virginiana), bittersweet (Celastrus orbiculata) and multiflora rose (Rosa multiflora) in the shrub/vine layer; and cinnamon fern (Osmunda cinnamomea), sensitive fern (Onoclea sensibilis), royal fern (Osmunda regalis), poison ivy (Toxicodendron radicans), dewberry (Rubus hispidus), princess pine (Lycopodium obscurum), Massachusetts fern (Thelypteris simulata) and Canada mayflower (Malanthemum canadense) in the herbaceous layer. The BVW's are also characterized by other hydrological indicators such as standing water, buttressed root and saturated/hydric soils. No other resource areas were identified on Horse Pond Road to Peakham Road. It is my understanding that the wetland flags are to be surveyed in the field and put onto a Plan to be submitted with a Notice of Intent for the proposed work.

According to the most recent Massachusetts Natural Heritage Atlas (NHESP 14<sup>th</sup> Edition) dated August 1, 2017, the project location is not mapped as estimated and priority habitat for rare wildlife/species and there are no certified/mapped vernal pools within the project area. The closest mapped habitat is an area located south of Route 20, extending into Framingham.

If you have any questions regarding these findings and/or you need additional information, please feel free to call me at any time. I am glad I could assist you with this project and let me know if I can be of any help in the future.

Sincerely, PINEBROOK CONSULTING

Brooke Monroe

**Environmental Scientist** 



Wetland Flags Horse Pond Road Sudburg. MA Blzips page 2.



SECTION 5 Abutters List

57 Codjer	abutters_owner1	abutters_owner2	abutters_location	abutters_address	abutters_town	abutters_state	abutters_zip
J08-0009	TOWN OF SUDBURY	CONSERVATION COMMISSION	UNION AVE	278 OLD SUDBURY RD	SUDBURY	MA	01776
J08-0022	SUDBURY VALLEY TRUSTEES INC		UNION AVE	18 WOLBACH RD	SUDBURY	MA	01776
J08-0023-0-A	KIRK DAVID G JR & JAMES E TRS	KIRK DENTAL REALTY TRUST	57 CODJER LN UNIT A	57 CODJER LN STE 1	SUDBURY	MA	01776
J08-0023-0-B	KIRK JAMES E & DAVID G JR	TRUSTEES KIRK DENTAL	57 CODJER LN UNIT B	57 CODJER LN UNIT 2	SUDBURY	MA	01776
J08-0023-0-C	COHEN STEVEN D TRUSTEE	NEW CODJER REALTY TRUST	57 CODJER LN UNIT C	57 CODJER LN UNIT 3	SUDBURY	MA	01776
J08-0024	CAVICCHIO PAUL F TRS PNJ 1995 RT		53 CODJER LN	110 CODJER LN	SUDBURY	MA	01776
J08-0502	CAVICCHIO PAUL F JR	TRS, CAVICCHIO FAMILY 1994 REA LTY TRUST	0 CODJER LN	110 CODJER LANE	SUDBURY	MA	01776
K08-0105	CAVICCHIO PAUL F JR	TRS, CAVICCHIO FAMILY 1994 REA LTY TRUST	CODJER LN	110 CODJER LANE	SUDBURY	MA	01776
K08-0304	CAVICCHIO PAUL F JR TRUSTEE	P N J 1995 REALTY TRUST	OFF CONCORD RD	110 CODJER LANE	SUDBURY	MA	01776

178 Horse Pond Rd									
ParcelID	Locatio		Owner	Co-Owner	Mailing Address	City	State	Zip	
J06-0013	1/3	HORSE POND RD	HAMPSON HEIDI S		173 HORSE POND RD	SUDBURY	MA	01776	
J06-0022	172	HORSE POND RD	MACPHEE MELISSA A &	BRODEUR BRENDAN J	172 HORSE POND RD	SUDBURY	MA	01776	
J06-0023-0-01	40	TALL PINE DR 01	GREEN ALLEN & CAROL J	TRUSTEES FORTY TALL PINE DRIVE	40 TALL PINE DR UNIT 1	SUDBURY	MA	01776	
J06-0023-0-02	40	TALL PINE DR 02	BASS MICHAEL A TRS	40 TALL PINE DRIVE UNIT 2	40 TALL PINE DR UNIT 2	SUDBURY	MA	01776	
J06-0023-0-03	40	TALL PINE DR 03	BUONO ANTHONY & MARY ALICE		40 TALL PINE DR UNIT 3	SUDBURY	MA	01776	
J06-0023-0-04	40	TALL PINE DR 04	EISAMAN TIMOTHY H &	MORGAN JOHNNIE L	40 TALL PINE DR UNIT 4	SUDBURY	MA	01776	
J06-0023-0-05	40	TALL PINE DR 05	WELCH CHARLENE M TRS	CHARLENE M WELCH TRUST 2007	40 TALL PINE DR #5	SUDBURY	MA	01776	
J06-0023-0-06	40	TALL PINE DR 06	PRITONI NANCY M TRS	THE NANCY M PRITONI REVOCABLE	40 TALL PINE DR #6	SUDBURY	MA	01776	
J06-0023-0-07	40	TALL PINE DR 07	SCHURR ERIC L & DEBORAH ANN		40 TALL PINE DR UNIT 7	SUDBURY	MA	01776	
J06-0023-0-08	40	TALL PINE DR 08	COPE JUDITH A & PETER T	TRUSTEE JUDITH A COPE TRUST	40 TALL PINE DR #8	SUDBURY	MA	01776	
J06-0023-0-09	40	TALL PINE DR 09	MARGIOTTA BEATRICE M & JOSEPH S		40 TALL PINE DR UNIT 9	SUDBURY	MA	01776	
J06-0023-0-10	40	TALL PINE DR 10	<b>BEYNON MICHAEL D &amp; MICHELE M</b>		40 TALL PINE DR UNIT 10	SUDBURY	MA	01776	
J06-0023-0-11	40	TALL PINE DR 11	GOYAL NALINI & ARVIND K		40 TALL PINE DR UNIT 11	SUDBURY	MA	01776	
J06-0023-0-12	40	TALL PINE DR 12	BLANK SHIRLEY E	TRUSTEE SHIRLEY E BLANK	40 TALL PINE DR	SUDBURY	MA	01776	
J06-0023-0-13	40	TALL PINE DR 13	DURSCHLAG MARK S & ROBERTA P		40 TALL PINE DR	SUDBURY	MA	01776	
J06-0023-0-14	40	TALL PINE DR 14	MILLER EDWIN L JR & BARBARA L		40 TALL PINE DR	SUDBURY	MA	01776	
J06-0023-0-15	40	TALL PINE DR 15	FALCK DEBORAH E	TRUSTEE DEBORAH E REVOCABLE TR	40 TALL PINE DR UNIT 15	SUDBURY	MA	01776	
J06-0023-0-16	40	TALL PINE DR 16	DIMAURO NANCY E		40 TALL PINE DR UNIT 16	SUDBURY	MA	01776	
J06-0023-0-17	40	TALL PINE DR 17	MARTINDALE MICHAEL & DOROTHY		40 TALL PINE DR UNIT 17	SUDBURY	MA	01776	
J06-0023-0-18	40	TALL PINE DR 18	CERMAK DIANNE S P & GREGORY W		40 TALL PINE DR	SUDBURY	MA	01776	
J06-0023-0-19	40	TALL PINE DR 19	GLASSBURN MARYLOU & JOHN R		40 TALL PINE DR UNIT 19	SUDBURY	MA	01776	
J06-0023-0-20	40	TALL PINE DR 20	DODDS PETER R & JOAN L		40 TALL PINE DR UNIT 20	SUDBURY	MA	01776	
J06-0023-0-21	40	TALL PINE DR 21	STRAUS KATHERINE L &	CAPLE BLAIR C	40 TALL PINE DR UNIT 21	SUDBURY	MA	01776	
J06-0023-0-22	40	TALL PINE DR 22	GOULD STELLA		40 TALL PINE DR UNIT 22	SUDBURY	MA	01776	
J06-0023-0-23	40	TALL PINE DR 23	COOLEY ROBERT L JR & GLORIA A		40 TALL PINE DR	SUDBURY	MA	01776	
J06-0023-0-24	40	TALL PINE DR 24	CIRCO ANTHONY J & WOODBURN	LAURA L	40 TALL PINE DR UNIT 24	SUDBURY	MA	01776	
J06-0023-0-25	40	TALL PINE DR 25	ADOLFSSON ULLA ANN-BRITT		40 TALL PINE DR UNIT 25	SUDBURY	MA	01776	
J06-0023-0-26	40	TALL PINE DR 26	FINNEGAN KATHLEEN T		40 TALL PINE DR UNIT 26	SUDBURY	MA	01776	
J06-0024	178	HORSE POND RD	THOMPSON REBECCA &	THOMPSON CHRISTOPHER P	178 HORSE POND RD	SUDBURY	MA	01776	
J06-0026	188	HORSE POND RD	EMRISS DANIELLE		188 HORSEPOND ROAD	SUDBURY	MA	01776	
J06-0407	185	HORSE POND RD	PODOLSKY SCOTT H & AMY R		185 HORSE POND RD	SUDBURY	MA	01776	
# **SECTION 6**

**Environmental Protection Measures** 

#### SECTION 01110

#### ENVIRONMENTAL PROTECTION MEASURES

#### PART 1 – GENERAL

#### 1.1 SCOPE OF WORK

- A. The work covered by this Section consists of furnishing all labor, materials and equipment and performing all work required for the prevention of environmental pollution in conformance with applicable laws and regulations, during and as the result of construction operations under this Contract. For the purpose of this Specification, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic and/or recreational purposes.
- B. The control of environmental pollution requires consideration of air, water and land, and involves management of noise and solid waste, as well as other pollutants.
- C. The Contractor shall take sufficient precautions during construction to minimize the run-off of polluting substances such as silt, clay, fuels, oils, bitumens and calcium chloride into the supplies and surface waters of the State.
- D. Schedule and conduct all work in a manner that will minimize the erosion of soils in the area of the work. Provide erosion control measures such as diversion channels, sedimentation or filtration systems, berms, staked hay bales, seeding, mulching or other special surface treatments as are required to prevent silting and muddying of streams, rivers, impoundments, lakes, etc. All erosion control measures shall be in place in an area prior to any construction activity in that area.
- E. These Specifications are intended to ensure that construction is achieved with a minimum disturbance to the existing ecological balance between a water resource and its surroundings. These are general guidelines. It is the Contractor's responsibility to determine the specific construction techniques to meet these guidelines.
- F. All phases of sedimentation and erosion control shall comply with and be subject to the approval of the Massachusetts Department of Environmental Protection.
- G. Contractor shall be responsible for maintenance of the erosion control structures and devices, and replacing as needed to maintain the required protection and performance.

#### 1.2 APPLICABLE REGULATIONS

A. Comply with all applicable Federal, State and local laws, regulations, and orders of conditions concerning environmental pollution control and abatement.

# 1.3 NOTIFICATIONS

A. The Engineer will notify the Contractor in writing of any non-compliance with the foregoing provisions or of any environmentally objectionable acts and corrective action to be taken. State or local agencies responsible for verification of certain aspects of the environmental protection requirements shall notify the Contractor in writing, through the Engineer, of any non-compliance with State or local requirements. The Contractor shall, after receipt of such notice from the Engineer or from the regulatory agency through the Engineer, immediately take corrective action. Such notice, when delivered to the Contractor or his/her authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Owner may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it is later determined that the Contractor was in compliance.

#### 1.4 IMPLEMENTATION

- A. Prior to commencement of the work, meet with the Engineer to develop mutual understandings relative to compliance with this provision and administration of the environmental pollution control program.
- B. Remove temporary environmental control features, when approved by the Engineer, and incorporate permanent control features into the project at the earliest practicable time.

# PART 2 – PRODUCTS

#### 2.1 EROSION CONTROLS

- A. Erosion Control barriers as shown on the Drawings to be used for run-off control to protect wetlands.
- B. Silt Sacks to be used where inserted into existing catch basins to prevent siltation of the existing drainage system, as necessary.
- C. Where silt fence is required, provide the following woven geotextile fabric for silt fence:
  - 1. Mirafi 100X as manufactured by Mirafi, Pendergrass, GA.

- 2. GEOTEX 2130 as manufactured by Propex, Chattanooga, TN.
- 3. Or acceptable equivalent product.

# 2.2 MATERIALS

A. Physical Properties of Minimum Average Roll of the woven geotextile fabric for silt fence shall be:

		ASTM		
	Property	Test Method	Units	Value
1.	Grab Strength	D4632	lbs [N]	100 [450](min.)
2.	Permissivity	D4491	sec - 1	0.10 (min.)
3.	Apparent Opening Size	D4751	Sieve #	20-30
4.	Ultraviolet Stability	D4355	%	90 (min.)
5.	Filtering Efficiency		%	75 (min.)
6.	Tensile Strength: Standard		lb./linear	30 (min.)
	-		inch	
7.	Tensile Strength: Extra		lb./linear	50 (min.)
	Strength		inch	
8.	Elongation		%	20 (max.)
9.	Slurry Flow Rate		gal/ft2/min	0.3 (min.)

# PART 3 – EXECUTION

#### 3.1 INSTALLATION

- A. Install sedimentation barriers in all locations as directed, surrounding base of all deposits of stored excavated material outside of disturbed area, and where directed by the Engineer.
- B. Install all erosion controls and environmental protection measures in accordance with manufacturer's printed instructions.
- C. Overlap silt fence 18 inches minimum for unsewn lap joint. Overlap fabric 6 inches at seam for sewn joint.
- D. Stake spacing for silt fences shall be no more than 10 feet apart for extra-strength fabric and 6 feet apart for standard strength fabric.
- E. Construct earth berms or diversions to intercept and divert runoff water from critical areas.

- F. Protect catch basins and drainage swales from sedimentation by installing inlet protection under catch basin grating casting as shown on the Drawings.
- G. Do not place excavated soil material adjacent to water-course in manner that will cause it to wash away by high water or runoff.
- H. Prevent damage to vegetation by excessive watering or silt accumulation in the discharge area.
- I. Do not dump spoiled material into any streams, wetlands, surface waters, or unspecified locations.
- J. Prevent indiscriminate, arbitrary, or capricious operation of equipment in streams, wetlands or surface waters.
- K. Do not pump silt-laden water from trenches or excavations into surface waters, streams, wetlands, or natural or man-made channels leading thereto.
- L. Prevent damage to vegetation adjacent to or outside of construction area limits.
- M. Do not dispose of trees, brush, debris, paints, chemicals, asphalt products, concrete curing compounds, fuels, lubricants, insecticides, washwater from concrete trucks or hydroseeders, or any other pollutant in streams, wet-lands, surface waters, or natural or man-made channels leading thereto, or unspecified locations.
- N. Do not alter flow line of any stream unless indicated or specified.
- O. Clean and dispose of debris from sedimentation barriers on a weekly basis.
- P. Upon completion of work and upon approval of Engineer, remove and legally dispose of sedimentation barriers and environmental protection measures.

#### 3.2 PROTECTION OF WETLANDS RESOURCE AREAS

- A. Care shall be taken to prevent or reduce to a minimum any disturbance to the adjacent wetlands, drainage ditch, surface water body, storm drain or sewer from pollution by debris, sediment, or other material, or from the manipulation of equipment and/or materials in or near such streams. Water that has been used for washing or processing, or that contains oils or sediments that will reduce the quality of the water in the receiving body shall not be directly returned to the surface water body. Such water will be diverted through a settling basin or filter before being directed into the surface water body.
- B. The Contractor shall not discharge water from dewatering operations directly into a wetland, surface water, or any storm sewer. Water from dewatering operations shall be treated by filtration, settling basins, or other approved method to reduce the

amount of sediment contained in the water to allowable levels. All dewatering discharges shall also include energy dissipation to prevent scouring.

- C. All preventative measures shall be taken to avoid spillage of petroleum products and other pollutants. In the event of any spillage, prompt remedial action shall be taken in accordance with a contingency action drawing or plan approved by the Massachusetts Department of Environmental Protection. Contractor shall submit two copies (2) of approved contingency drawings or plans to the Engineer.
- D. Equipment refueling operations must take place in a supervised area with appropriate secondary containment measures in place and spill response materials accessible on-site for the duration of construction.

## 3.3 PROVISIONS FOR CONTROL OF EROSION

- A. Special precautions shall be taken in the use of construction equipment to prevent operations which promote erosion. Erosion control measures, such as siltation basins, hay check dams, mulching, jute netting and other equivalent techniques, shall be used as appropriate. Flow of surface water into excavated areas shall be prevented.
- B. Disposal of drainage shall be in an area approved by the Owner. The Contractor shall prevent the flow or seepage of drainage back into the drainage area. Drainage shall not be disposed of until silt and other sedimentary materials have been removed. Particular care shall be taken to prevent the discharge of unsuitable drainage to a water supply or surface water body.
- C. As a minimum, the following shall apply:
  - 1. Silt fence shall be provided at points where drainage from the work site may contain polluting substances. The point of control shall be within the limits of the new construction and shall be contained in such a way as to not allow sediment to pass. Other methods which reduce the sediment content to an equal or greater degree may be used as approved by the Engineer.
  - 2. Drainage leaving the site shall flow to water courses in such a manner to prevent erosion.
- D. Measures for control of erosion must be adequate to assure that turbidity in the receiving water will not be increased more than 10 standard turbidity units (s.t.u.), or as otherwise required by the State or other controlling body, in waters used for public water supply or fish unless limits have been established for the particular water. In surface water used for other purposes, the turbidity must not exceed 25 s.t.u. unless otherwise permitted.

#### 3.4 **PROTECTION OF STREAMS**

- A. Care shall be taken to prevent, or reduce to a minimum, any damage to any stream from pollution by debris, sediment or other material, or from the manipulation of equipment and/or materials in or near such streams. Water that has been used for washing or processing, or that contains oils or sediments that will reduce the quality of the water in the stream, shall not be directly returned to the stream. Such waters will be diverted through a settling basin or filter before being directed into the streams.
- B. The Contractor shall not discharge water from dewatering operations directly into any live or intermittent stream, channel, wetlands, surface water or any storm sewer. Water from dewatering operations shall be treated by filtration, settling basins, or other approved method to reduce the amount of sediment contained in the water to allowable levels.
- C. All preventative measures shall be taken to avoid spillage of petroleum products and other pollutants. In the event of any spillage, prompt remedial action shall be taken in accordance with a contingency action plan approved by the Massachusetts Department of Environmental Protection.

## 3.5 PROTECTION OF LAND RESOURCES

- A. Land resources within the project boundaries and outside the limits of permanent work shall be restored to a condition that, after completion of construction, appears to be natural and not detract from the appearance of the project. Confine all construction activities to areas shown on the Drawings.
- B. Outside of areas requiring earthwork for the construction of the new facilities, the Contractor shall not deface, injure, or destroy trees or shrubs, nor remove or cut them without prior approval. No ropes, cables, or guys shall be fastened to or attached to any existing nearby trees for anchorage unless specifically authorized by the Engineer. Where such special emergency use is permitted, first wrap the trunk with a sufficient thickness of burlap or rags over which softwood cleats shall be tied before any rope, cable, or wire is placed. The Contractor shall in any event be responsible for any damage resulting from such use.
- C. Where trees may possibly be defaced, bruised, injured, or otherwise damaged by the Contractor's equipment, dumping or other operations, protect such trees as specified in section 02052. Monuments and markers shall be protected similarly before beginning operations near them.
- D. Any trees or other landscape feature scarred or damaged by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition, in accordance with section 02052. The Engineer or Tree Warden will decide what method of restoration shall be used and whether damaged trees shall be treated and healed or removed and disposed of.

- E. Climbing ropes shall be used where necessary for safety. Trees that are to remain, either within or outside established clearing limits, that are subsequently damaged by the Contractor, and that are beyond saving in the opinion of the Engineer and the Tree Warden, shall be immediately removed and replaced according to section 02052.
- F. The locations of the Contractor's storage, and other construction buildings, required temporarily in the performance of the work, shall be cleared portions of the job site or areas to be cleared as shown on the Drawings and shall require written approval of the Engineer and shall not be within wetlands or floodplains. The preservation of the landscape shall be an imperative consideration in the selection of all sites and in the construction of buildings. Drawings showing storage facilities shall be submitted for approval of the Engineer.
- G. If the Contractor proposes to construct temporary roads or embankments and excavations for plant and/or work areas, he/she shall submit the following for approval at least ten days prior to scheduled start of such temporary work.
  - 1. A layout of all temporary roads, excavations and embankments to be constructed within the work area.
  - 2. Details of temporary road construction.
  - 3. Drawings and cross sections of proposed embankments and their foundations, including a description of proposed materials.
  - 4. A landscaping drawing showing the proposed restoration of the area. Removal of any trees and shrubs outside the limits of existing clearing area shall be indicated. The drawing shall also indicate location of required guard posts or barriers required to control vehicular traffic passing close to trees and shrubs to be maintained undamaged. The drawing shall provide for the obliteration of construction scars as such and shall provide for a natural appearing final condition of the area. Modification of the Contractor's approved drawings shall be made only with the written approval of the Engineer. No unauthorized road construction, excavation or embankment construction including disposal areas will be permitted.
- H. Remove all signs of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess of waste materials, or any other vestiges of construction as directed by the Engineer. It is anticipated that excavation, filling and plowing of roadways will be required to restore the area to near natural conditions which will permit the growth of vegetation thereon. The disturbed areas shall be prepared and seeded as approved by the Engineer.

I. All debris and excess material will be disposed of outside wetland or floodplain areas in an environmentally sound manner.

#### 3.6 PROTECTION OF AIR QUALITY

- A. Burning. The use of burning at the project site for the disposal of refuse and debris will not be permitted.
- B. Dust Control. The Contractor will be required to maintain all excavations, embankment, stockpiles, access roads, plant sites, waste areas, borrow areas, and all other work areas within or without the project boundaries free from dust which could cause the standards for air pollution to be exceeded, and which would cause a hazard or nuisance to others.
- C. An approved method of stabilization consisting of sprinkling or other similar methods will be permitted to control dust. The use of petroleum products is prohibited. The use of chlorides may be permitted with approval from the Engineer.
- D. Sprinkling, to be approved, must be repeated at such intervals as to keep all parts of the disturbed area at least damp at all times, and the Contractor must have sufficient competent equipment on the job to accomplish this if sprinkling is used. Dust control shall be performed as the work proceeds and whenever a dust nuisance or hazard occurs, as determined by the Engineer.

# 3.7 MAINTENANCE OF POLLUTION CONTROL FACILITIES DURING CONSTRUCTION

A. During the life of this Contract, maintain all facilities constructed for pollution control as long as the operations creating the particular pollutant are being carried out or until the material concerned has become stabilized to the extent that pollution is no longer being created.

#### 3.8 NOISE CONTROL

- A. The Contractor shall make every effort to minimize noises caused by his/her operations. Equipment shall be equipped with silencers or mufflers designed to operate with the least possible noise in compliance with State and Federal regulations.
- B. Contractor should note local residences within proximately of the work and shall make all efforts to minimize noise disruptions.
- C. Construction activities and operating equipment shall not begin before 7:00 A.M.

#### END OF SECTION 01110

#### SECTION 02020

#### EROSION AND SEDIMENT CONTROL

#### PART 1 - GENERAL

#### 1.1 SUMMARY

A. This Section specifies equipment and materials for an erosion and sediment control program for minimizing erosion and siltation during the construction phase of the project. The erosion and sediment control provisions detailed on the Drawings and specified herein are the minimum requirements for installation and maintenance of erosion controls. The Contractor shall provide additional erosion and sediment control materials and methods as required to affect the erosion and siltation control principles specified herein.

#### 1.2 RELATED SECTIONS

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Section 02140 DEWATERING
  - 2. Section 02200 EARTHWORK

#### 1.3 SUBMITTALS

- A. Proposed methods, materials to be employed, and schedule for effecting erosion and siltation control and preventing erosion damage shall be submitted for approval. Submittals shall include:
  - 1. List of proposed materials including manufacturer's product data.
  - 2. Perimeter (Limit of Work) Erosion Controls damaged during construction shall be replaced immediately and installed per the Details. Schedule of any additional erosion control program indicating specific dates for implementing programs in each major area of work, including dewatering sedimentation basin(s) shall be submitted prior to installation.

#### 1.4 **REFERENCES**

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

- 1. Massachusetts Department of Public Works, and The Commonwealth of Massachusetts Department of Public Works; Construction Standards.
- 2. Massachusetts Department of Environmental Protection.

# 1.5 EROSION CONTROL PRINCIPLES

A. Erosion Control Principles

The following erosion control principles shall apply to the land grading and construction phases:

- 1. Stripping of vegetation, grading, or other soil disturbance shall be done in a manner which will minimize soil erosion.
- 2. Whenever feasible, natural vegetation shall be retained and protected.
- 3. Extent of area which is exposed and free of vegetation and duration of its exposure shall be kept within practical limits.
- 4. Temporary seeding, mulching, or other suitable stabilization measures shall be used to protect exposed critical areas during prolonged construction or other land disturbance. Prolonged exposure of unstabilized soil shall not exceed 60 days.
- 5. Drainage provisions shall accommodate increased runoff resulting from modifications of soil and surface conditions during and after development or disturbance. Such provisions shall be in addition to existing requirements.
- 6. Sediment shall be retained on-site.
- B. Erosion Protection

Cut and fill slopes and stockpiled materials shall be protected to prevent erosion. Slopes shall be protected with permanent erosion protection when erosion exposure period is expected to be greater than or equal to two months, and temporary erosion protection when erosion exposure period is expected to be less than two months.

- 1. Permanent erosion protection shall be accomplished by seeding with grass and covering with an erosion protection material, as appropriate for prevailing conditions.
- 2. Temporary erosion protection shall be accomplished by covering with an erosion protection material, as appropriate for prevailing conditions.

3. Except where specified slope is indicated on Drawings, fill slopes shall be limited to a grade of 3:1 (horizontal: vertical) cut slopes shall be limited to a grade of 2:1.

#### PART 2 - PRODUCTS

#### 2.1 FIBER ROLLS

- A. Fiber Rolls for construction of erosion control devices shall be blown or placed media (mulch or compost) in twelve-inch diameter biodegradable filter sock.
- B. Wooden stakes (2-in. by 2-in. by 36-in.) shall be placed 10 foot on center, driven a minimum of 12 inches into the ground.
- C. Fiber Rolls shall be trenched 3-5 inches into the ground.
- D. Fiber Rolls shall be placed a minimum of 1 foot back from drain inlets.
- 2.2 Silt Fencing
  - A. Silt Fence shall be erected in a continuous fashion from a single roll of fabric such as polypropylene, nylon, polyester, or polyethylene yarn.
  - B. Silt Fence for Erosion Control shall have the following minimum physical properties:
    - 1.Filtering Efficiency:75%2.Tensile Strength:30 lb./linear inch (standard), 50 lb. linear inch (extra strength)3.Elongation:20%
    - 4. Ultraviolet Radiation: 90%
    - 5. Slurry Flow Rate: 0.3 gal/sf/minute
  - C. The bottom of fabric shall be installed 4-6 inches below the ground.
  - D. Stakes shall be spaced 6 feet on center on the downstream side of the fabric.

#### 2.3 SILT BAGS

A. Silt bags shall be utilized for trench dewatering activities. The silt bags shall be in accordance with the construction details on the Drawings.

## 2.3 SILT SACKS

B. Silt sacks for catch basin inlet protection shall be ACF Environmental High Flow or equal. Minimum physical properties of the geosynthetic shall be as follows:

Property	Test Method	Units	Test	Results
Trapezoid Tear	ASTM D-4533	1	bs.	90x71
UV Resistance	ASTM D-4355	C	%	99.4
AOS	ASTM D-4751	I	US Sieve	20
Flow Rate	ASTM D-4491	ş	gal/min/sf	100.6
Permittivity	ASTM D-4491	S	sec <sup>-1</sup>	4.81

#### 2.3 TEMPORARY SEED COVER

A. If required, seed mixture for temporary cover by hydroseeding application shall conform to the following:

Quantity per 1000 sq. ft. Coverage	<u>Material</u>
27-1/2 lb.	Wood Fiber Mulch
4 lb.	Seed
½ lb.	Annual Ryegrass
22 lb.	10-6-4 Fertilizer
69 gal.	Water

#### B. Hydroseeding Equipment

Hydroseeding equipment may be either portable or truck mounted, with dual agitation, a minimum working volume of 1000 gallons and a minimum spray range of 80 ft.

- 1. Hydroseeding equipment must be capable of uniformly applying the slurry mix including wood fiber mulch if required, at the specified rate, and at the required locations.
- 2. Hydromulching equipment, either trailer or truck mounted, must be capable of uniformly applying straw or hay mulch at a minimum mulching rate of 8 tons per hour, at a distance of not less than 80 ft.

#### PART 3 - EXECUTION

#### 3.1 HYDROSEEDING

- A. If required for long-term disturbance greater than 60 days, seed for temporary cover shall be spread by the hydroseeding method, utilizing power equipment commonly used for that purpose. Seed, fertilizer, mulch and water shall be mixed and applied to achieve application quantities specified. Material shall be applied in 2 equal applications, with the equipment during the second pass moving perpendicular to direction employed during the first pass. Hydroseeding shall not be done when it is raining or snowing, or when wind velocity exceeds 5 mph.
- B. If the results of hydroseeding application are unsatisfactory, the mixture and/or application rate and methods shall be modified to achieve the required results.
- C. After the grass has appeared, all areas and parts of areas which fail to show a uniform stand of grass, for any reason whatsoever, shall be reseeded and such areas and parts of areas seeded repeatedly until all areas are covered with a satisfactory growth of grass.

# 3.2 MAINTENANCE AND REMOVAL OF EROSION CONTROL DEVICES

- A. Wetland area, water courses, and drainage swales adjacent to construction activities shall be monitored continuously for evidence of silt intrusion and other adverse environmental impacts, which shall be corrected immediately upon discovery.
- B. Culverts and drainage ditches shall be kept clean and clear of obstructions during construction period.
- C. Erosion Control Devices
  - 1. Sediment behind the erosion control device shall be checked twice each month and after heavy rain. Silt shall be removed if greater than 6 in. deep.
  - 2. Condition of erosion control devices shall be checked twice each month or more frequently as required. Damaged and/or deteriorated items shall be replaced. Erosion control devices shall be maintained in place and in effective condition.
  - 3. Filter sock shall be inspected frequently and maintained or replaced as required to maintain both their effectiveness and essentially their original condition. Underside of bales shall be kept in close contact with the earth below at all times, as required to prevent water from washing beneath bales.
  - 4. Sediment deposits shall be properly disposed of, in a location and manner which will not cause sediment nuisance elsewhere.
- D. Removal of Erosion Control Devices

- 1. Erosion control devices shall be maintained until all disturbed earth has been vegetated or restored, at which time they shall be inspected by the Conservation Agent prior to removal. After removal, areas disturbed by these devices shall be regraded and seeded.
- 2. Erosion protection material shall be kept securely anchored until acceptance of the entire Project.

END OF SECTION 02020

EROSION AND SEDIMENT CONTROL 02020-6

## SECTION 02052

# TREE PROTECTION AND TRIMMING

#### PART 1 – GENERAL

#### 1.1 SUMMARY

A. This Section includes the protection and trimming of trees that interfere with, or are affected by, execution of the Work, whether temporary or new construction. It also covers tree pruning when necessary in the vicinity of the site Work.

#### 1.2 RELATED SECTIONS

- A. Drawings and general provisions of DIVISION 0 BIDDING AND CONTRACT REQUIREMENTS and other DIVISION 1 Specification Sections, apply to this section. Related Sections include the following:
  - 1. Section 02920 TOPSOIL

#### 1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of engineers and owners, and other information specified.
- C. Certification: From a qualified arborist that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.

#### 1.4 QUALITY ASSURANCE

- A. Tree Service Qualifications: An experienced tree service firm to be consulted as necessary.
- B. Arborist Qualifications: An arborist certified by the International Society of Arboricultural or licensed in the jurisdiction where Project is located, to be consulted as necessary.
- C. Tree Pruning Standards: Comply with ANSI A300, "Trees, Shrubs, and Other Woody Plant Maintenance--Standard Practices," unless more stringent requirements are indicated.

- D. Preinstallation Conference: Conduct conference at Project site prior to start of work.
  - 1. Before starting tree pruning protection and trimming, meet with representatives of authorities having jurisdiction, Owner, Tree Warden, Engineer, consultants, and other concerned entities. Review tree pruning protection and trimming procedures and responsibilities. Notify participants at least three working days before convening conference. Record discussions and agreements and furnish a copy to each participant.

#### PART 2 – PRODUCTS

## 2.1 MATERIALS

- A. Drainage Fill: Selected 2 1/2 inch crushed stone, and with not more than 10 percent passing a 3/4-inch sieve.
- B. Topsoil: Fertile, friable, surface soil, containing natural loam and complying with ASTM D 5268. Provide topsoil that is free of stones larger than 1 inch in any dimension and free of other extraneous or toxic matter harmful to plant growth. Obtain topsoil only from well-drained sites where soil occurs in depth of 4 inches or more; do not obtain from bogs or marshes.
- C. Filter Fabric: Manufacturer's standard, nonwoven, pervious, geotextile fabric of polypropylene, nylon, or polyester fibers, as manufactured by US Fabrics, model # US 120NW or approved equal.

#### PART 3 – EXECUTION

#### 3.1 PREPARATION

- A. Protect tree root systems from damage due to noxious materials caused by runoff or spillage while mixing, placing, or storing construction materials. Protect root systems from flooding, eroding, or excessive wetting caused by dewatering operations.
- B. Do not store construction materials, debris, or excavated material within the drip line of remaining trees. Do not permit vehicles or foot traffic within the drip line; prevent soil compaction over root systems.
- C. Do not allow fires under or adjacent to remaining trees or other plants.
- D. Coordinate all Tree work with the Tree Warden.

#### 3.2 TREE PROTECTION

- A. A tree protection zone shall be established for each tree in the work area extending out from the center of the trunk to a radius of 1.5 feet per inch of trunk diameter. Trunk diameter shall be measured at 4.5 above ground level.
- B. Fencing shall be installed around the tree protection zone. No storage of materials or parking shall be allowed within the tree protection zone.
- C. Primary tree protection shall include 2" x 4" boards in 8-foot lengths vertically strapped around trunk at 8-inch on center maximum.

# 3.2 EXCAVATION

- A. Install shoring or other protective support systems to minimize sloping or benching of excavations.
- B. Do not excavate within drip line of trees, unless otherwise indicated.
- C. Where excavation for new construction is required within drip line of trees, hand clear and excavate to minimize damage to root systems. Use air spade to expose roots and flag roots for protection.
  - 1. Relocate roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and relocate them without breaking. No roots greater than 2 inches shall be cut during construction activities. Only root pruning methods shall be used for removal and shall be subject to the approval of the Tree Warden.
  - 2. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil. Vertical mulching shall be required if soil compaction levels exceed 75% or more than 3 passes by heavy equipment are expected.

#### 3.3 REGRADING

- A. Grade Lowering: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by qualified arborist, unless otherwise indicated.
  - 1. Root Pruning: Prune tree roots exposed during grade lowering. Do not cut main lateral roots or taproots; cut only smaller roots. No roots greater than 2 inches shall be cut during construction activities. Cut roots with sharp pruning instruments; do not break or chop.

- B. Minor Fill: Where existing grade is 6 inches or less below elevation of finish grade, fill with topsoil. Place topsoil in a single uncompacted layer and hand grade to required finish elevations.
- C. Moderate Fill: Where existing grade is more than 6 inches, but less than 12 inches, below elevation of finish grade, place drainage fill, filter fabric, and topsoil on existing grade as follows:
  - 1. Carefully place drainage fill against tree trunk approximately 2 inches above elevation of finish grade and extend not less than 18 inches from tree trunk on all sides. For balance of area within drip-line perimeter, place drainage fill up to 6 inches below elevation of grade.
    - 2. Place filter fabric with edges overlapping 6 inches minimum.
    - 3. Place fill layer of topsoil to finish grade. Do not compact drainage fill or topsoil. Hand grade to required finish elevations.

# 3.4 TREE PRUNING

- A. Prune trees affected by temporary and new construction as indicated on the plans. All pruning shall be done under the direction of a certified arborist and the Town's Tree Warden.
- B. Prune remaining trees, if any, to compensate for root loss caused by damaging or cutting root system. Provide subsequent maintenance during Contract period as recommended by qualified arborist.
- C. Pruning Standards: Prune trees according to ANSI A300.
- D. Cut branches with sharp pruning instruments; do not break or chop.

# 3.5 TREE REPAIR AND REPLACEMENT

- A. Promptly repair trees damaged by construction operations within 24 hours. Treat damaged trunks, limbs, and roots according to written instructions of the qualified arborist.
- B. Remove and replace dead and damaged trees that the qualified arborist determines to be incapable of restoring to a normal growth pattern.
  - 1. Provide new trees of the same size and species as those being replaced; plant and maintain as specified.
  - 2. Provide new trees of 2-inch caliper size and of a species selected by Engineer the cumulative quantity of which shall match the diameter of the damaged tree.

- C. Aerate surface soil, compacted during construction, 10 feet beyond drip line and no closer than 36 inches to tree trunk. Drill 2-inch diameter holes a minimum of 12 inches deep at 24 inches (on center). Backfill holes with an equal mix of augured soil and sand.
- D. A written guarantee shall be provided to the Town that trees planted in Town as per the contract will thrive for a minimum of two (2) years. The guarantee shall include replacement of trees that the Tree Warden has determined are not thriving. Replacements shall have the same guarantees as the original trees.

# 3.6 DISPOSAL OF WASTE MATERIALS

- A. Burning is not permitted.
- B. Disposal: Remove excess excavated material, displaced trees, roots, stumps and excess chips and dispose in accordance with Section 02095.

# END OF SECTION 02050

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TREE PROTECTION AND TRIMMING 02052-6

SECTION 7

Stormwater Report and Checklist Form

# **Stormwater Report**

# Environmental 🞾 Partners

To:	Town of Sudbury Conservation Commission
From:	Paul Millett, P.E.
Cc:	Vincent Roy, Sudbury Water District
Date:	November 27, 2018
Subject:	Codjer Lane and Horse Pond Road Water Main Improvements Town of Sudbury, MA WPA Form 3 - Notice of Intent

1900 Crown Colony Drive Suite 402 Quincy, MA 02169 Tel: 617 657 0200 Fax: 617 657 0201 www.envpartners.com

Environmental Partners Group, Inc. (EP) has prepared this stormwater report on behalf of the Sudbury Water District for the Wetlands Protection Act Notice of Intent for the Codjer Lane and Horse Pond Road Water Main Improvements project. This report has been prepared in accordance with the requirements of 310 CMR 10.00 and 310 CMR 21.00, and the guidelines of the Massachusetts Stormwater Handbook.

#### Project Description

This water main improvement project includes two roads: Horse Pond Road and Codjer Lane. Proposed work would include the installation of a new 12" DI water main along each road, the abandonment of the existing AC main, replacement of existing water services, and installation of new hydrants. Normal operations of the existing water mains would be maintained throughout the installation of the new water mains. On both streets, the water main would be installed by the open trench method.

#### **Horse Pond Road**

Along Horse Pond Road, the proposed work includes the following: abandonment of existing 8" and 10" AC water main, replacement of existing water services and curb stops, installation of new hydrants, and the installation of approximately 5000' of 12" DI water main including values and appurtenances.

#### **Codjer Lane**

Along Codjer Lane, the proposed work includes the following: abandonment of existing 8" and 10" AC water main, replacement of existing water services and curb stops, installation of new hydrants, and the installation of approximately 1700' of 12" DI water main including valves and appurtenances.

Generally, pre and post stormwater conditions will remain the same, as the project will be restored to at least existing conditions. As such, there will be no change in grading or soil cover types between existing and post-construction conditions. We believe this project is considered a redevelopment project according to the Massachusetts Stormwater Handbook. Vol 2, Ch3-Checklist for Redevelopment.

#### **Checklist for Stormwater Report**

The MassDEP Checklist for Stormwater Report has been included in this section. The Checklist has been stamped and signed by a certified Professional Engineer in the State of Massachusetts.

#### Stormwater Standard 1: No Untreated Discharges or Erosion to Wetlands

<u>No New Untreated Discharges</u> No new untreated discharges are proposed.

#### Erosion to Wetlands from Discharges

There will be no increase in peak runoff. Therefore, no velocity calculations at the discharges have been completed.

#### **Stormwater Standard 2: Peak Rate Attenuation**

#### Stormwater Model

No stormwater models were developed for this analysis. The post peak rate runoff will remain the same as pre-existing conditions. No grading or soil cover types will be changed between existing and post construction.

<u>FEMA Flood Zone – Horse Pond Road</u> No grading grades will be changed between existing and post construction.

#### **Stormwater Standard 3: Stormwater Recharge**

Standard 3 does not apply. No new impervious surfaces will be created.

#### **Stormwater Standard 4: Water Quality**

Standard 4 does not apply. No new impervious surfaces will be created.

#### **Stormwater Standard 5: Land Uses with Higher Potential Pollutant Loads**

Standard 5 is not applicable.

#### **Stormwater Standard 6: Critical Areas**

Standard 6 is not applicable. There will be no long term stormwater effects post construction.

#### Stormwater Standard 7: Redevelopment

We believe that the project is a redevelopment project and is subject to the Stormwater Management Standards only to the Maximum Extent Practical.

#### **Stormwater Standard 8: Construction Period Controls**

Please refer to the cover letter and the plan set in the NOI for environmental sediment and erosion controls.

#### Stormwater Standard 9: Operation and Maintenance Plan

The Town will continue to provide operation and maintenance of the surrounding stormwater systems before, during, and after construction of this project. No O&M Plan has been included as part of this report.

## Stormwater Standard 10: Illicit Discharges to Drainage System

The Town is covered under the NPDES General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (the MS4 Permit).



# Massachusetts Department of Environmental Protection Bureau of Resource Protection - Wetlands Program Checklist for Stormwater Report

# A. Introduction

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



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

The Stormwater Report must include:

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

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

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

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

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

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



Massachusetts Department of Environmental Protection Bureau of Resource Protection - Wetlands Program Checklist for Stormwater Report

# **B. Stormwater Checklist and Certification**

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

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

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

# **Registered Professional Engineer's Certification**

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

Registered Professional Engineer Block and Signature



le. hullett 12/11/18

# Checklist

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

New development

X Redevelopment

Mix of New Development and Redevelopment



# Checklist (continued)

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

	No disturbance to any Wetland Resource Areas			
	Site Design Practices (e.g. clustered development, reduced frontage setbacks)			
	Reduced Impervious Area (Redevelopment Only)			
	Minimizing disturbance to existing trees and shrubs			
	LID Site Design Credit Requested:			
	Credit 1			
	Credit 2			
	Credit 3			
	Use of "country drainage" versus curb and gutter conveyance and pipe			
	Bioretention Cells (includes Rain Gardens)			
	Constructed Stormwater Wetlands (includes Gravel Wetlands designs)			
	Treebox Filter			
	Water Quality Swale			
	Grass Channel			
	Green Roof			
	Other (describe):			
Sta	Standard 1: No New Untreated Discharges			

X No new untreated discharges

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



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51a	ndard 2: Peak Rate Attenuation No calculation included. See Stormwater Report.			
	Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding. Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.			
	Calculations provided to show that post-development peak discharge rates do not exceed pre- development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24- hour storm.			
Sta	ndard 3: Recharge No calculation included. See Stormwater Report.			
	Soil Analysis provided.			
	Required Recharge Volume calculation provided.			
	Required Recharge volume reduced through use of the LID site Design Credits.			
	Sizing the infiltration, BMPs is based on the following method: Check the method used.			
	Static Simple Dynamic Dynamic Field <sup>1</sup>			
	Runoff from all impervious areas at the site discharging to the infiltration BMP.			
	Runoff from all impervious areas at the site is <i>not</i> discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.			
	Recharge BMPs have been sized to infiltrate the Required Recharge Volume.			
	Recharge BMPs have been sized to infiltrate the Required Recharge Volume <i>only</i> to the maximum extent practicable for the following reason:			
	Site is comprised solely of C and D soils and/or bedrock at the land surface			
	M.G.L. c. 21E sites pursuant to 310 CMR 40.0000			
	Solid Waste Landfill pursuant to 310 CMR 19.000			
	Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.			
	Calculations showing that the infiltration BMPs will drain in 72 hours are provided.			
	Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.			

No coloulation included Coo Stampuraton Depart

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



# Checklist (continued)

#### Standard 3: Recharge (continued)

The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.

Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

#### Standard 4: Water Quality No calculation included. See Stormwater Report.

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

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



Ch	acklist (continued)
CIII	
Stan	dard 4: Water Quality (continued)
	The BMP is sized (and calculations provided) based on:
[	The ½" or 1" Water Quality Volume or
[	The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
ם א א א א	The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
	A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing hat the BMPs selected are consistent with the TMDL is provided.
Stan	dard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs) Stormwater Report.
	The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report. The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted <b>prior</b> to the discharge of stormwater to the post-construction stormwater BMPs.
	The NPDES Multi-Sector General Permit does <i>not</i> cover the land use.
L r r	UHPPLs are located at the site and industry specific source control and pollution prevention neasures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow nelt and runoff, and been included in the long term Pollution Prevention Plan.
	All exposure has been eliminated.
	All exposure has <i>not</i> been eliminated and all BMPs selected are on MassDEP LUHPPL list.
	The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.
Stan	dard 6: Critical Areas Not applicable. See Stormwater Report.
	The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

Critical areas and BMPs are identified in the Stormwater Report.



# Checklist (continued)

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

The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

Limited	Proj	ject
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- Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
- Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
- Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
- Bike Path and/or Foot Path
- Redevelopment Project

Redevelopment portion of mix of new and redevelopment.

Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☐ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

#### Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control See Stormwater Report and NOI Erosion and Sedimentation Controls

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

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



# Checklist (continued)

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

The project is highly complex and information is included in the Stormwater Report that explains why
it is not possible to submit the Construction Period Pollution Prevention and Erosion and
Sedimentation Control Plan with the application A Construction Period Pollution Prevention and
Erosion and Sodimentation Control has <b>not</b> been included in the Stormwater Penert but will be
submitted <b>before</b> land disturbance begins.

The project is <i>not</i> covered by a NPDES	Construction General Permit.
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- The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

#### Standard 9: Operation and Maintenance Plan See Stormwater Report.

The Post Construction Operation and Maintenance Plan is included in the Stormwater Re	port and
includes the following information:	-

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

# Standard 10: Prohibition of Illicit Discharges No new stormwater structures installed. Not applicable.

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


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