

A-2 Wire Test Station Installation Project
63 Herrick Road, Boxford, Massachusetts

REQUEST FOR DETERMINATION OF APPLICABILITY

Boston Gas Company

August 2021

Tighe&Bond

WO #1385664
N5068-130
August 13, 2021

Ross Povenmire, Director
Boxford Conservation Commission
7A Spofford Lane
Boxford, Massachusetts 01921

Re: **Request for Determination of Applicability
A-2 Wire Test Station Installation Project
Boston Gas Company
63 Herrick Road, Boxford, Massachusetts**

Dear Mr. Povenmire and the Members of the Boxford Conservation Commission:

On behalf of the Boston Gas Company, Tighe & Bond respectfully submits this Request for Determination of Applicability (RDA) for a proposed wire test station installation project at 63 Herrick Road in Boxford, Massachusetts. This wire test station will monitor for and protect against corrosion of the gas line in order to properly maintain the utility line. The proposed project will be within the existing paved road and driveway near 63 Herrick Road.

This RDA is being filed because the proposed work will occur within the 100-foot Buffer Zone to jurisdictional wetland resource areas. These areas are regulated under the Massachusetts Wetlands Protection Act (WPA, M.G.L. c. 131 § 40) and the Town of Boxford Wetlands Protection Bylaw (Town Code Chapter 192) and implementing regulations. All of the proposed work will occur within previously disturbed areas with no anticipated impacts to the nearby wetland resources. Please note, the proposed work is considered an exempt buffer zone minor activity under 310 CMR 10.02(2)(b)(2)(i), as it consists of the *"installation of underground utilities (e.g., electric, gas, water) within existing paved or unpaved roadways and private roadways/driveways, provided that all work is conducted within the roadway or driveway and that all trenches are closed at the completion of each workday."* This project is being filed as an RDA as the Boxford Wetlands Protection Bylaw does not recognize the above exemption.

Tighe & Bond respectfully requests that the Boxford Conservation Commission make a Negative Determination confirming that the proposed work does not require the filing of a Notice of Intent under the WPA or the Town of Boxford Wetlands Protection Bylaw and Regulations.

This RDA application includes the following items:

- Attachment A – WPA Form 1
- Attachment B – Figures
- Attachment C – Site Photographs
- Attachment D – Abutter Information
- Attachment E – National Grid Best Management Practice Details

The following text discusses the wetland resource areas, proposed activities, and proposed protective measures.



Wetland Resource Areas

Site reconnaissance and wetland resource area investigations of the project area were conducted by a Tighe & Bond Professional Wetland Scientist (PWS) on August 6, 2021. The reconnaissance was conducted in accordance with the Massachusetts Department of Environmental Protection (MassDEP) guidelines, 310 CMR 10.00, and the Town of Boxford Wetlands Protection Bylaw (Town Code Chapter 192). The resource area boundaries were surveyed using a hand-held GPS unit (i.e., R1) with sub-meter accuracy. Please refer to Figure 3 in Attachment B for a figure illustrating the wetland locations.

Bordering Vegetated Wetlands

One Bordering Vegetated Wetland (BVW) was delineated along the banks of an intermittent stream. This wetland is located approximately 117 feet northeast of Herrick Road, and northeast of the existing driveway. This wetland is best classified as palustrine, scrub/shrub-emergent, and persistent with a seasonally flooded/saturated hydroperiod (PSS/EM1E). Hydrologic indicators observed during the site visit included inundation visible on aerial imagery, water stained leaves, and geomorphic position. The soils observed were black organic (5YR 2.5/1) with reddish yellow (7.5YR 7/8) redoximorphic concentrations. Common vegetation observed included various sedges (*Carex* spp.) and sweet-pepperbush (*Clethra alnifolia*) with overhanging upland vegetation.

Inland Bank/ Intermittent Stream

The stream is located north and south of the existing driveway, and north of the BVW. The stream is characterized by a bank width of approximately one to two feet, with water flowing with a depth between one and two inches at the time of the delineation. The stream appears to have been previously disturbed through channelization and culverted under the existing driveway.

Bordering Land Subject to Flooding

The Federal Emergency Management Agency (FEMA) flood map (Panel No. 25009C0242F, effective July 3, 2012) was consulted to evaluate the presence of jurisdictional Land Subject to Flooding on the property. No portion of the proposed project area falls within any area subject to flooding and/or inundation by a 100-year flood. Therefore, the project area is not regulated as Bordering Land Subject to Flooding (BLSF).

Rare Species

The Massachusetts Natural Heritage and Endangered Species Program (NHESP) Atlas (14th edition, effective August 2012) was reviewed during the preparation of this RDA. According to these sources, no Priority Habitats of Rare Species (PH) or Estimated Habitats of Rare Wildlife (EH) occur in any portion of the proposed project area.

Proposed Activities

The proposed work entails of the installation of a two-wire test station with anodes to provide corrosion data along the gas line. The data collected will support the maintenance of the system. The work includes installation of a test station by vacuuming a five-foot hole next to existing gas lines. The test station is placed vertically in the hole, attached to existing underground test wires, then the hole is backfilled with rock-free native soil. The installation of the test station falls within the 100-foot Buffer Zone to BVW and Inland Bank. The work

area will be within an existing roadway and driveway with no maintenance work directly within wetland resource areas.

The proposed work will not change the general characteristics of the area, as the entire project is contained within previously disturbed areas.

Protective Measures

The proposed installation will be completed within the roadway of Herrick Road and existing driveway. Prior to the commencement of work, appropriate erosion control measures will be installed at the downgradient limit-of-work as deemed necessary. The erosion controls will be maintained throughout the duration of work and will be removed after disturbed areas have been stabilized. Following the completion of construction activities, any disturbed soils will be restored in-kind. Attachment E of this submittal includes details of standard erosion control measures that have been used in past projects of similar scope.

Application Requirements

As required by the Boxford Wetlands Protection Bylaw, a check made payable to the Town for the application filing fee (\$100) has been submitted under separate cover. Abutters to the project area will be notified via Certificate of Mailing, in accordance with the abutter notification requirements. Copies of the abutter notification form and the certified list of abutters have been enclosed in Attachment D.

Summary

We look forward to having the opportunity to discuss this project with the Boxford Conservation Commission at the September 2, 2021 hearing. We anticipate these materials are sufficient for the Commission to issue a Negative Determination confirming the proposed project may proceed without the filing of an NOI.

Should you have any questions regarding this application or require any additional information, please do not hesitate to contact me at (508) 304-6354 or via email at AJHoule@tighebond.com.

Thank you in advance for your attention to this matter.

Respectfully,



Amanda J. Houle, PWS, CERP
Senior Environmental Scientist

Enclosures

Copy: MassDEP NERO
Andrew Shelby, National Grid
John and Jessie McNulty, property owners

ATTACHMENT A

WPA FORM 1



WPA Form 1- Request for Determination of Applicability

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

A. General Information

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



1. Applicant:

Boston Gas Company	drew.shelby@nationalgrid.com	
Name	E-Mail Address	
40 Sylvan Road		
Mailing Address		
Waltham	MA	02451
City/Town	State	Zip Code
781.907.1867	N/A	
Phone Number	Fax Number (if applicable)	

2. Representative (if any):

Tighe & Bond		
Firm		
Amanda Houle	ajhoule@tighebond.com	
Contact Name	E-Mail Address	
4 Barlows Landing Road		
Mailing Address		
Pocasset	MA	02559
City/Town	State	Zip Code
508.304.6354	N/A	
Phone Number	Fax Number (if applicable)	

B. Determinations

1. I request the Boxford Conservation Commission make the following determination(s). Check any that apply:

- a. whether the **area** depicted on plan(s) and/or map(s) referenced below is an area subject to jurisdiction of the Wetlands Protection Act.
- b. whether the **boundaries** of resource area(s) depicted on plan(s) and/or map(s) referenced below are accurately delineated.
- c. whether the **work** depicted on plan(s) referenced below is subject to the Wetlands Protection Act.
- d. whether the area and/or work depicted on plan(s) referenced below is subject to the jurisdiction of any **municipal wetlands ordinance** or **bylaw** of:

Boxford
Name of Municipality

- e. whether the following **scope of alternatives** is adequate for work in the Riverfront Area as depicted on referenced plan(s).



WPA Form 1- Request for Determination of Applicability

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

C. Project Description (cont.)

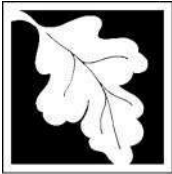
b. Identify provisions of the Wetlands Protection Act or regulations which may exempt the applicant from having to file a Notice of Intent for all or part of the described work (use additional paper, if necessary).

310 CMR 10.02(2)(b)(2)(i). Please refer to the attached Cover Letter for additional information

3. a. If this application is a Request for Determination of Scope of Alternatives for work in the Riverfront Area, indicate the one classification below that best describes the project.

- Single family house on a lot recorded on or before 8/1/96
- Single family house on a lot recorded after 8/1/96
- Expansion of an existing structure on a lot recorded after 8/1/96
- Project, other than a single family house or public project, where the applicant owned the lot before 8/7/96
- New agriculture or aquaculture project
- Public project where funds were appropriated prior to 8/7/96
- Project on a lot shown on an approved, definitive subdivision plan where there is a recorded deed restriction limiting total alteration of the Riverfront Area for the entire subdivision
- Residential subdivision; institutional, industrial, or commercial project
- Municipal project
- District, county, state, or federal government project
- Project required to evaluate off-site alternatives in more than one municipality in an Environmental Impact Report under MEPA or in an alternatives analysis pursuant to an application for a 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification from the Department of Environmental Protection.

b. Provide evidence (e.g., record of date subdivision lot was recorded) supporting the classification above (use additional paper and/or attach appropriate documents, if necessary.)



WPA Form 1- Request for Determination of Applicability

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

D. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Request for Determination of Applicability and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

I further certify that the property owner, if different from the applicant, and the appropriate DEP Regional Office were sent a complete copy of this Request (including all appropriate documentation) simultaneously with the submittal of this Request to the Conservation Commission.


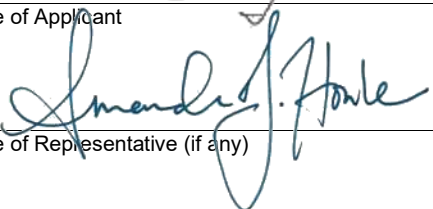
Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

Name and address of the property owner:

<u>John and Jessie McNulty</u>	
Name	
<u>63 Herrick Road</u>	
Mailing Address	
<u>Boxford</u>	
City/Town	
<u>MA</u>	<u>01921</u>
State	Zip Code

Signatures:

I also understand that notification of this Request will be placed in a local newspaper at my expense in accordance with Section 10.05(3)(b)(1) of the Wetlands Protection Act regulations.

<u></u>	<u>8/11/2021</u>
Signature of Applicant	Date
<u></u>	<u>8/10/2021</u>
Signature of Representative (if any)	Date

Tighe & Bond, Inc.
53 Southampton Road
Westfield, MA 01085

This is a Deluxe eCheck. The PAY TO THE ORDER OF line designates the Payee. For questions, call Deluxe Payment Exchange customer support at 877-373-6964. Ref: 78BA-44AC

5334

Date 08/12/2021
Void after 90 days

PAY TO THE ORDER OF Town of Boxford

\$ 100.00

One hundred and 00/100

Dollars

TD Bank, NA

Memo _____



Verify check at <https://echecks.com/verify>

FILE COPY

⑈005334⑈ □□□□□□□□□□ □□□□□□□□□□
Account numbers are concealed for your security

FILE COPY

Check Details

Check issued: 08/12/2021

Check number: 5334

From: Tighe & Bond, Inc.

Amount: \$100.00

Payable to: Town of Boxford

Delivered to: ajhoule@tighebond.com

Documents: Yes - see Remittance below

Message from sender: Hi, attached is your Tighe & Bond electronic ...

Notes

Activity

ACTIVITY TYPE	TIME	DATE
Tracy Houle issued check 5334	09:13 AM EDT	08/12/2021
Check 5334 file copy printed by Amanda Houle	14:41 PM EDT	08/12/2021

TO: FAX NUMBER 781.433.7951

Carol

Community Newspaper Company

254 Second Ave., Telecenter

Needham, MA 02494

Tel: 781-433-6700

FROM: Ross Povenmire, Boxford Conservation Commission

FAX NUMBER: (978) 887-0758

RE: Hearing/Meeting Legal Notice

I hereby authorize Community Newspaper Company to bill me directly for the legal notice published in the Tri Town Transcript Newspaper for a Conservation Notice.

(Print Legibly) Name: Tighe & Bond, c/o Debra Faille

Address: 53 Southhampton Road
Westfield, MA 01085

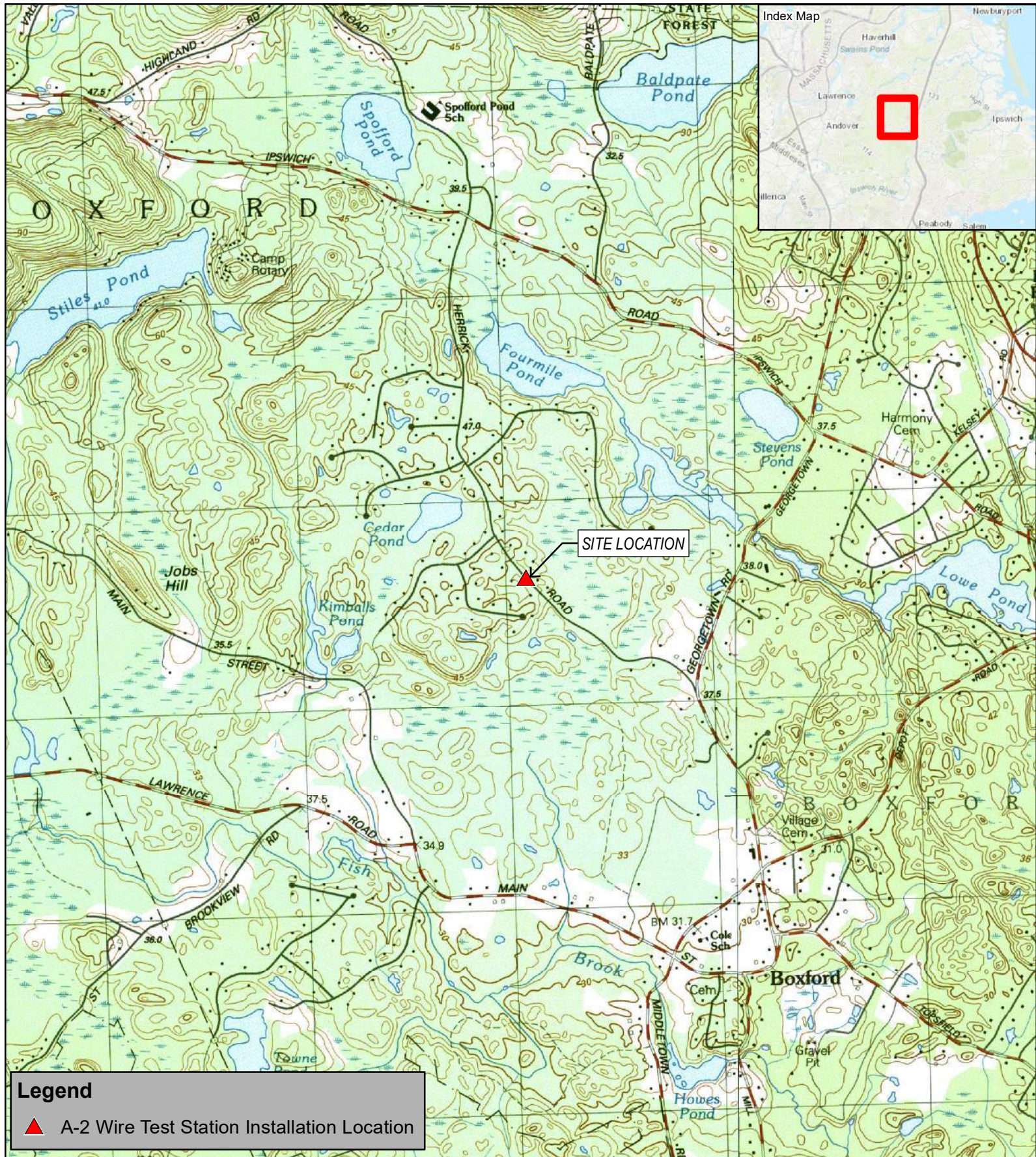
Phone: 413-572-3285

Signed: Raina Valovoski

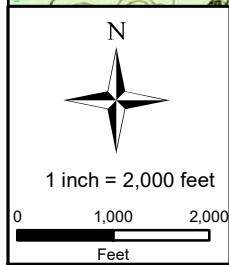
If questions please call (978) 887-6000, ext. 182

ATTACHMENT B

FIGURES



Legend
▲ A-2 Wire Test Station Installation Location



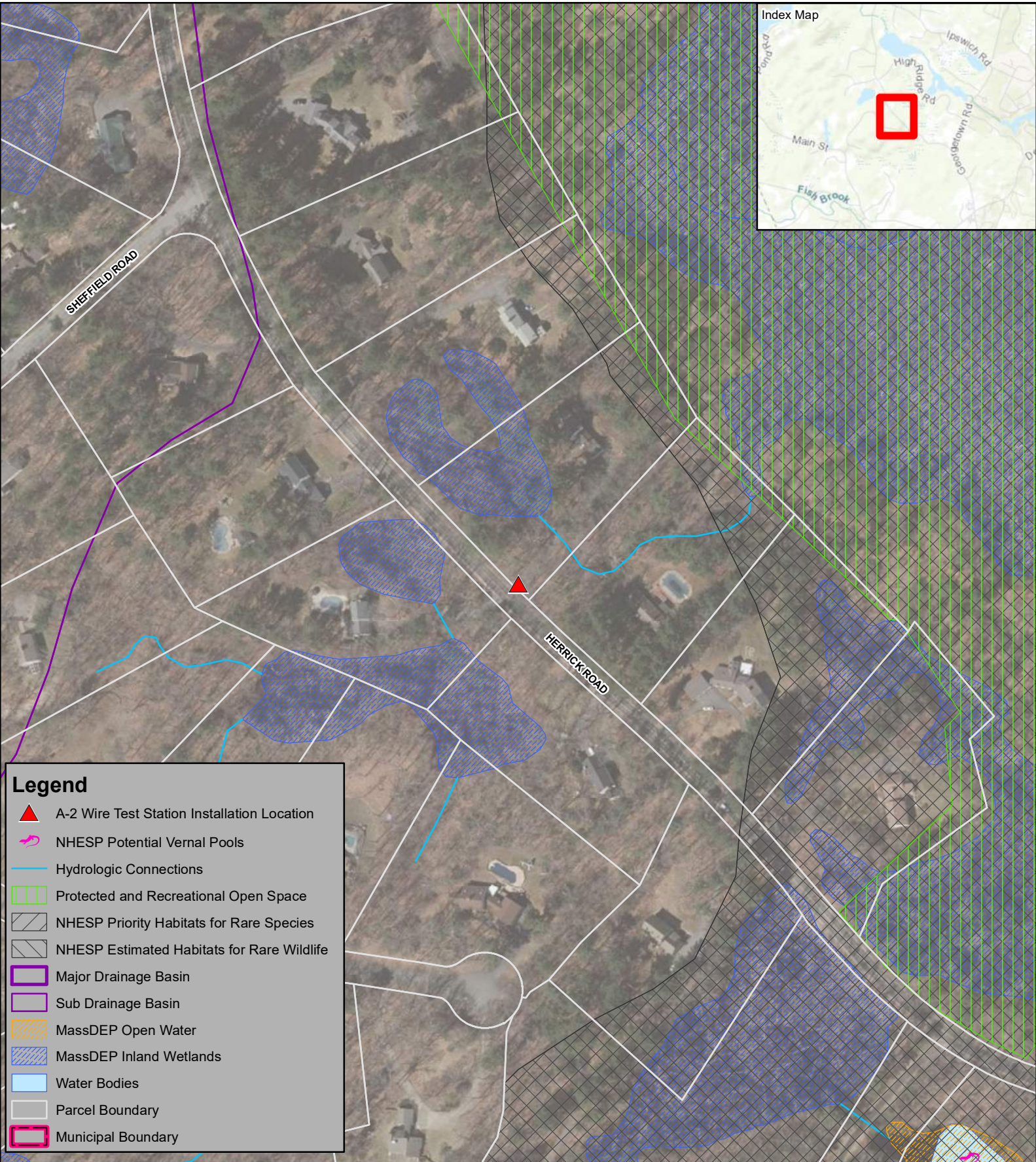
TEST STATION INSTALLATION PROJECT

Site Location














63 Herrick Road, Boxford, MA
Figure 1

Based on USGS Topographic Map for South Groveland, MA Revised 1987. Contour Equals 3-Meters. [Site Quad] Georgetown, MA Revised 1985. Contour Equals 3-Meters.



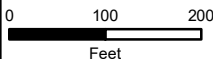


Legend

-  A-2 Wire Test Station Installation Location
-  NHESP Potential Vernal Pools
-  Hydrologic Connections
-  Protected and Recreational Open Space
-  NHESP Priority Habitats for Rare Species
-  NHESP Estimated Habitats for Rare Wildlife
-  Major Drainage Basin
-  Sub Drainage Basin
-  MassDEP Open Water
-  MassDEP Inland Wetlands
-  Water Bodies
-  Parcel Boundary
-  Municipal Boundary



1 inch = 200 feet



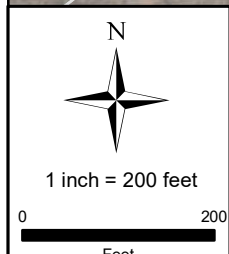
TEST STATION INSTALLATION PROJECT

Priority Resources

63 Herrick Road, Boxford, MA
 Figure 2

Based on MassGIS Color Orthophotography (2019).
 Data source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology Data valid as of August 2021. Parcels (FY2021) downloaded from MassGIS and are approximate.





TEST STATION INSTALLATION PROJECT

Orthophotograph

63 Herrick Road, Boxford, MA
Figure 3

1. Based on MassGIS Color Orthophotography (2019).
2. Parcels (FY2021) downloaded from MassGIS and are approximate.





Legend

- Culvert
- A-2 Wire Test Station Installation Location
- Delineated Stream - Bank
- Delineated Wetland - Boundary
- 100-foot Buffer Zone
- Wetland Area*
- Work Area (10-foot x 10-foot)*
- Parcel Boundary
- Municipal Boundary *Indicates Layers Set to Transparency

N

1 inch = 25 feet

0 25

Feet

TEST STATION INSTALLATION PROJECT

Site Plan

63 Herrick Road, Boxford, MA
 Figure 4

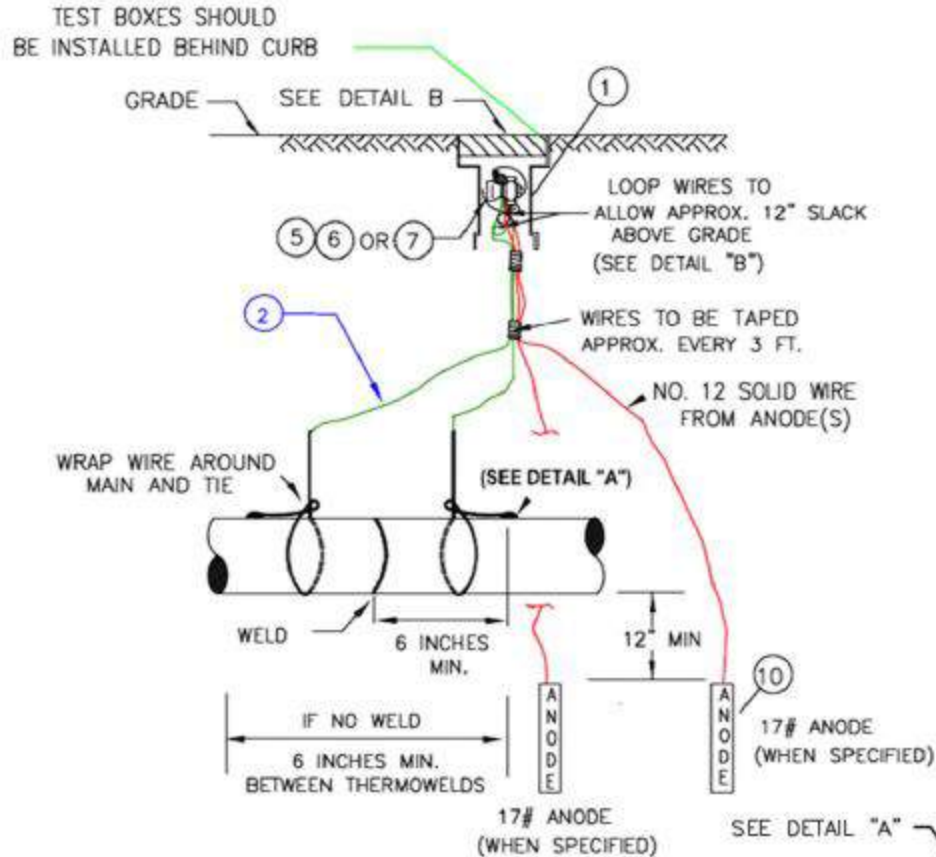
1. Based on MassGIS Color Orthophotography (2019).
 2. Parcels (FY2021) downloaded from MassGIS and are approximate.



How is a test station actually installed?

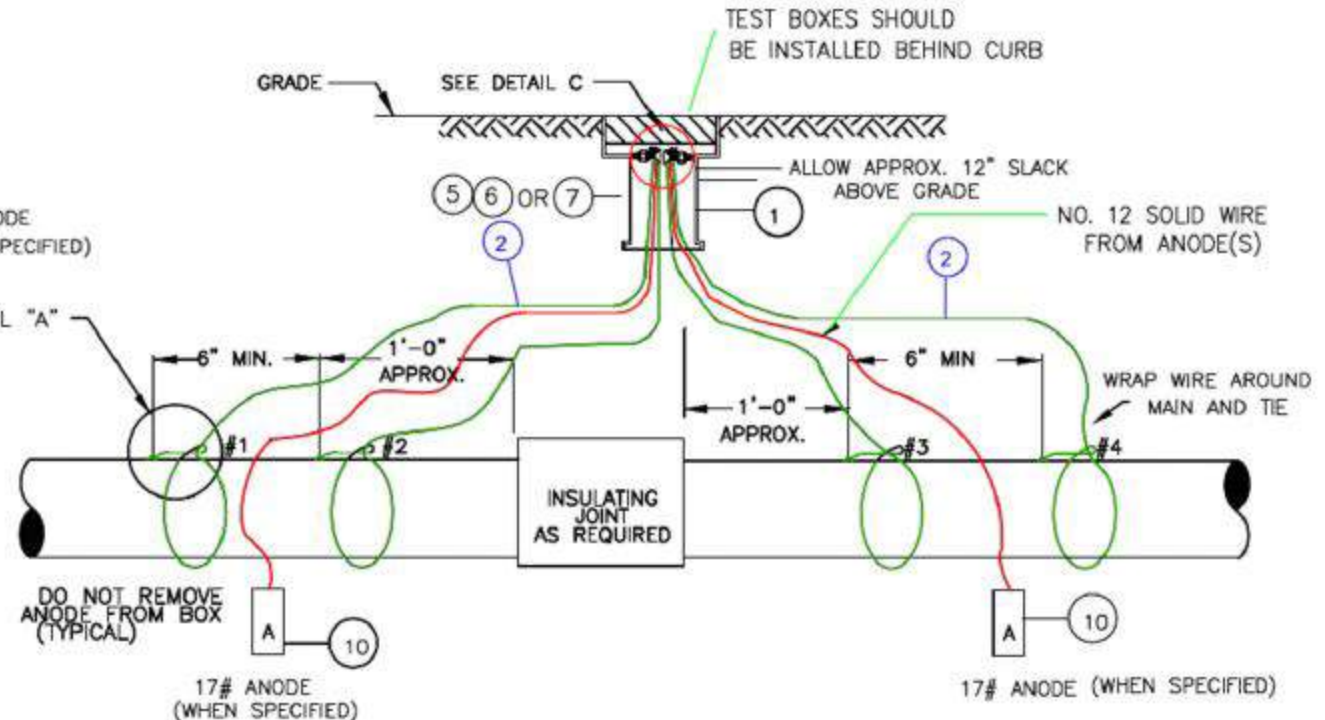
TWO WIRE TEST STATION WITH ANODE(S)

Can be installed without anodes



FOUR WIRE TEST STATION WITH ANODES

Can be installed without anodes



ATTACHMENT C
SITE PHOTOGRAPHS

Photographic Log

Client: Boston Gas Company

Job Number: N5068-130

Site: A-2 Test Station Installation, 63 Herrick Road, Boxford, Massachusetts

Photograph No.: 1	Date: 8/6/2021	Direction Taken: Northeast
Description: View of the approximate location of the proposed test station (orange square), existing gas service line to the residence at 63 Herrick (red), and ties into the existing gas main (blue).		


Photograph No.: 2	Date: 8/6/2021	Direction Taken: Southeast
Description: View southeast and upstream of the intermittent stream.		

Photographic Log

Client: Boston Gas Company

Job Number: N5068-130

Site: A-2 Test Station Installation, 63 Herrick Road, Boxford, Massachusetts

Photograph No.: 3	Date: 8/6/2021	Direction Taken: Northwest
Description: View of the north and upstream side of the intermittent stream and BVW.		
		

Photograph No.: 4	Date: 8/6/2021	Direction Taken: Southeast
Description: View of the culvert outlet north of the existing driveway.		
		

ATTACHMENT D
ABUTTER INFORMATION

24-04-13 - 63 HERRICK RD, BOXFORD ABUTTERS LIST
 CONSERVATION COMMISSION 250'

Parcel ID	Location	Owner	Owner 2	Owner Address	Owner City/Town	Owner State	Zip Code
24-02-13	68 HERRICK RD	RICE CHRISTOPHER	RICE ANGELA	68 HERRICK RD	BOXFORD	MA	01921
24-02-14	64 HERRICK RD	FERRARO MICHAEL F TE	FERRARO MARY E	64 HERRICK RD	BOXFORD	MA	01921
24-02-15	60 HERRICK RD	BRANDT BENJAMIN M	BRANDT KAREN A	60 HERRICK RD	BOXFORD	MA	01921
24-02-06	30 PARTRIDGE LN	FLYNN ANN MARIE		30 PARTRIDGE LN	BOXFORD	MA	01921
24-02-07	26 PARTRIDGE LN	DEMARCO JOSEPH		26 PARTRIDGE LN	BOXFORD	MA	01921
24-04-11	55 HERRICK RD	GEMME ERIC A	GEMME LARISSA ANNE CALKA	55 HERRICK RD	BOXFORD	MA	01921
24-04-12	61 HERRICK RD	MCPARTLIN WALTER L TR	MCPARTLIN CAROLYN M TR	61 HERRICK RD	BOXFORD	MA	01921
24-04-13	63 HERRICK RD	MC NULTY JOHN M TE	MC NULTY JESSIE S	63 HERRICK RD	BOXFORD	MA	01921
24-04-14	71 HERRICK RD	KIM TOUCH	KIM SHELLY M	71 HERRICK RD	BOXFORD	MA	01921
24-04-15	77 HERRICK RD	COOK WILLARD E JR & SARAH F TRS	WILLARD E JR & SARAH F COOK REVO	77 HERRICK RD	BOXFORD	MA	01921
24-04-09-3	HERRICK RD	NEW ENGLAND FORESTRY	FOUNDATION	85 NEWBURY ST	BOSTON	MA	02116

CERTIFIED COPY

8/5/2021

Kristin Hanlon

ATTACHMENT E

NATIONAL GRID BEST MANAGEMENT PRACTICES

SUBJECT

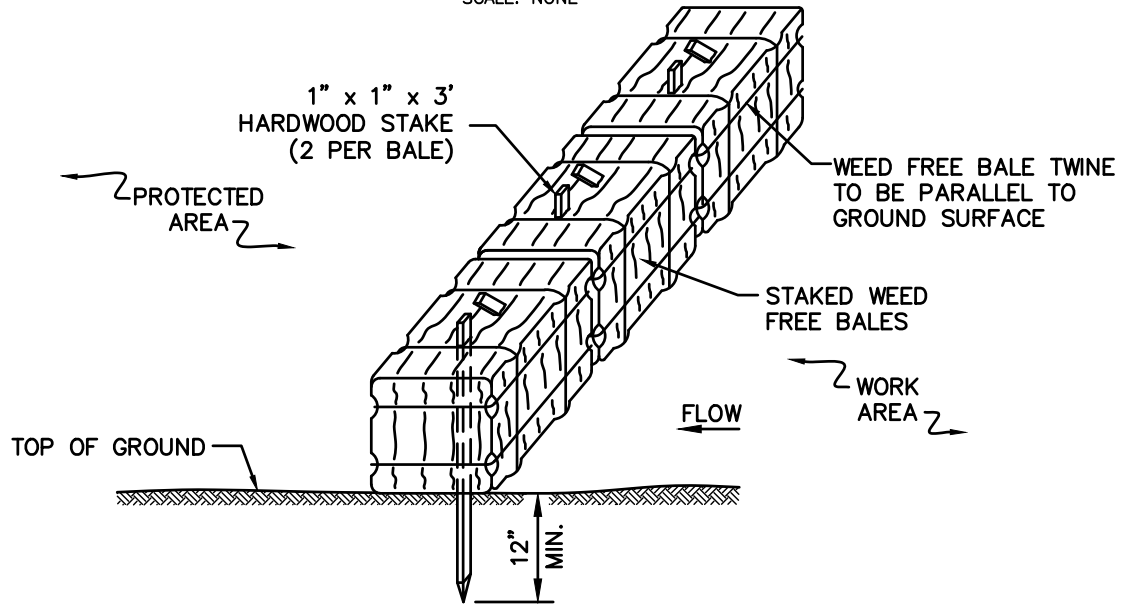
Access, Maintenance and Construction
Best Management Practices

Reference

EP No. 3 - Natural Resource
Protection (Chapter 6)

BMP DETAIL

SCALE: NONE



NOTES:

1. THE GROUND SHALL BE PREPARED TO PROVIDE COMPLETE CONTACT WITH THE BALES.

BMP PICTURE



File: BALE_BARRIER.DWG

APPROVED BY: VICE PRESIDENT, ENVIRONMENTAL SERVICES
PRINTED COPIES ARE NOT DOCUMENT CONTROLLED. FOR LATEST AUTHORIZED
VERSION PLEASE REFER TO THE NATIONAL GRID ENVIRONMENTAL INFONET SITE.

SEC-1
WEED FREE BALE BARRIER

SUBJECT

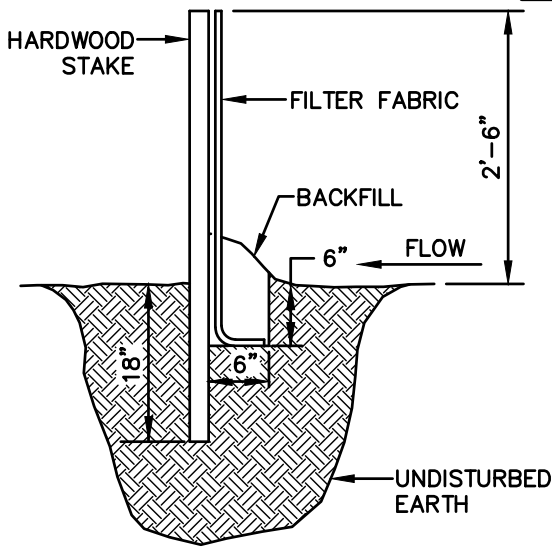
Access, Maintenance and Construction
Best Management Practices

Reference

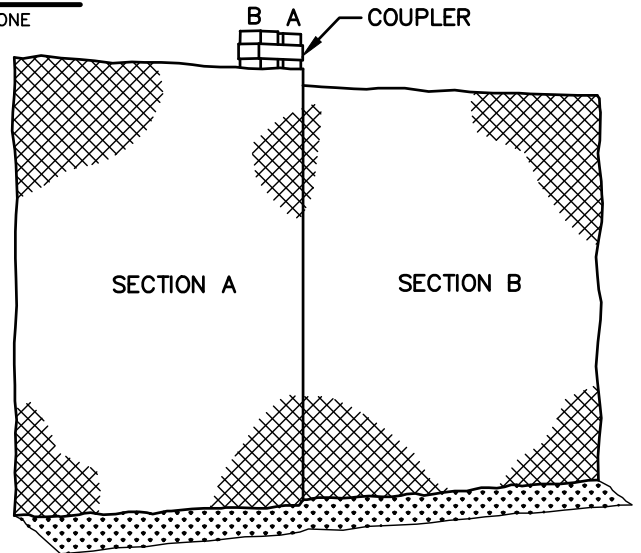
EP No. 3 - Natural Resource
Protection (Chapter 6)

BMP DETAIL

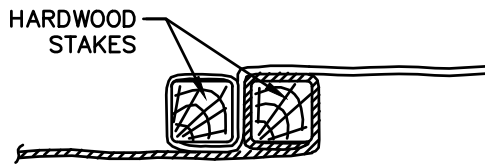
SCALE: NONE



PROFILE



SECTION



PLAN

BMP PICTURE



File: Sediment_Fence.dwg

APPROVED BY: VICE PRESIDENT, ENVIRONMENTAL SERVICES
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VERSION PLEASE REFER TO THE NATIONAL GRID ENVIRONMENTAL INFONET SITE.

SEC-2
SEDIMENT CONTROL FENCE

SUBJECT

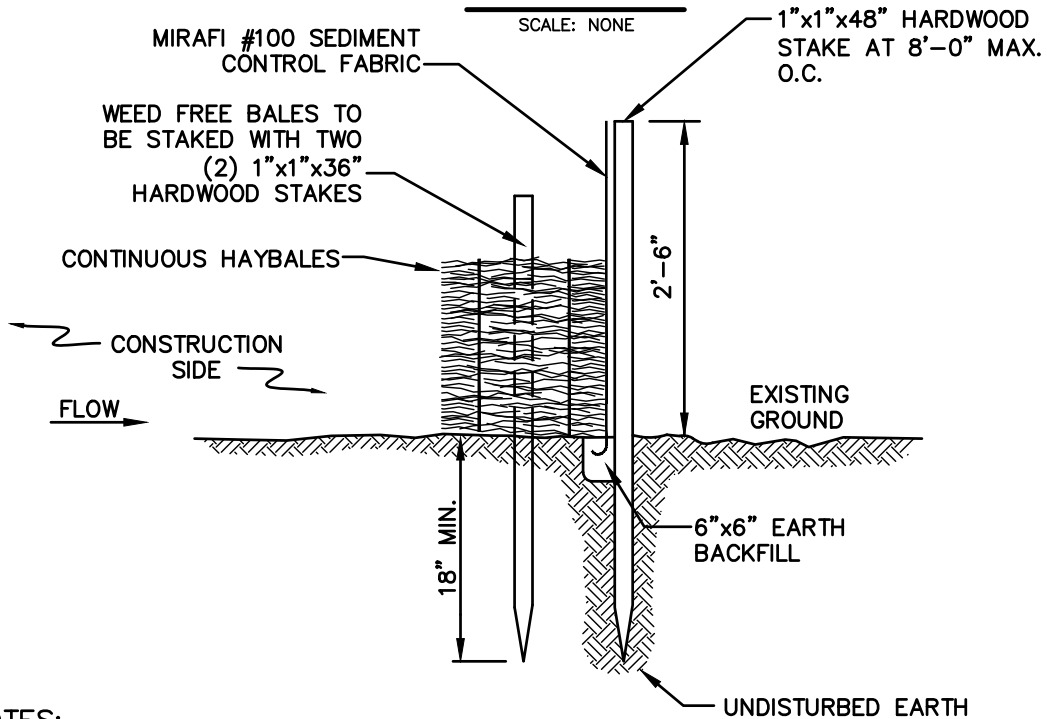
Access, Maintenance and Construction
Best Management Practices

Reference

EP No. 3 - Natural Resource
Protection (Chapter 6)

BMP DETAIL

SCALE: NONE



NOTES:

1. BALES SHALL BE PLACED IN A ROW WITH THE ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. BALES SHALL BE SECURELY ANCHORED IN PLACE BY TWO (2) 1"x1"x36" HARDWOOD STAKES DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
3. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
4. BALES SHALL BE REMOVED AND REPLACED WHEN THEY BECOME FILLED WITH SEDIMENT AND BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
5. BALES SHALL BE REMOVED WHEN THE EMBANKMENTS STABILIZE.
6. BALES TO BE TWINE BOUND.

BMP PICTURE



File: Silt_Fence_&_Barrier.dwg

APPROVED BY: VICE PRESIDENT, ENVIRONMENTAL SERVICES
PRINTED COPIES ARE NOT DOCUMENT CONTROLLED. FOR LATEST AUTHORIZED
VERSION PLEASE REFER TO THE NATIONAL GRID ENVIRONMENTAL INFONET SITE.

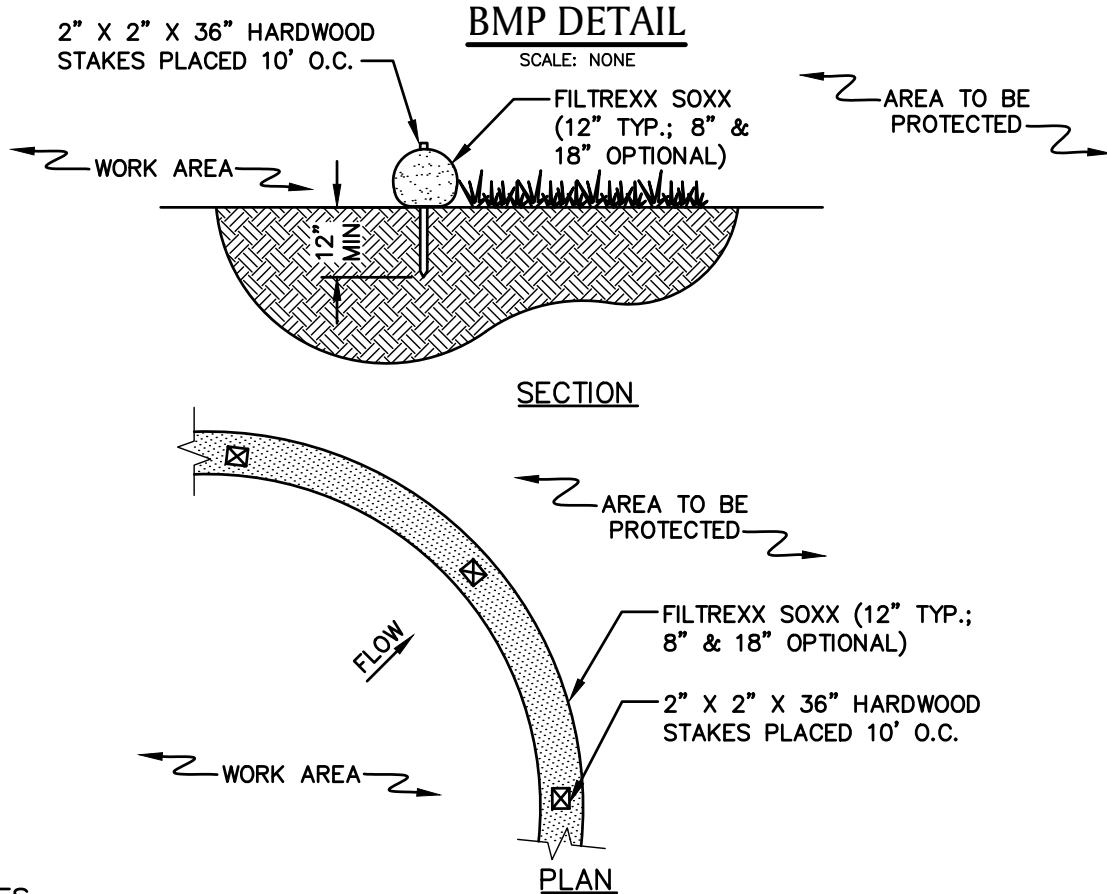
SEC-3
SILT FENCE /
WEED FREE BARRIER

SUBJECT

Access, Maintenance and Construction
Best Management Practices

Reference

EP No. 3 - Natural Resource
Protection (Chapter 6)



NOTES

1. PRODUCT TO BE FILTREXX SILT SOXX OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
3. FILTER MEDIA FILL TO MEET APPLICATION REQUIREMENTS.
4. MESH CONTAINMENT MATERIAL SHOULD BE KNITTED PHOTODEGRADABLE OR BIODEGRADABLE MATERIAL, WITH OPENING SIZES BETWEEN 1/8" - 3/8".
5. COMPOST MEDIA SHOULD HAVE PARTICLE SIZE WHERE 99% < 2", 50% > 1/2".
6. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.

BMP PICTURE



* PICTURE AND DETAIL PROVIDED BY FILTREXX LAND IMPROVEMENT SYSTEMS
APPROVED BY: VICE PRESIDENT, ENVIRONMENTAL SERVICES
PRINTED COPIES ARE NOT DOCUMENT CONTROLLED. FOR LATEST AUTHORIZED
VERSION PLEASE REFER TO THE NATIONAL GRID ENVIRONMENTAL INFONET SITE.

SEC-4
SILT SOXX *

SUBJECT

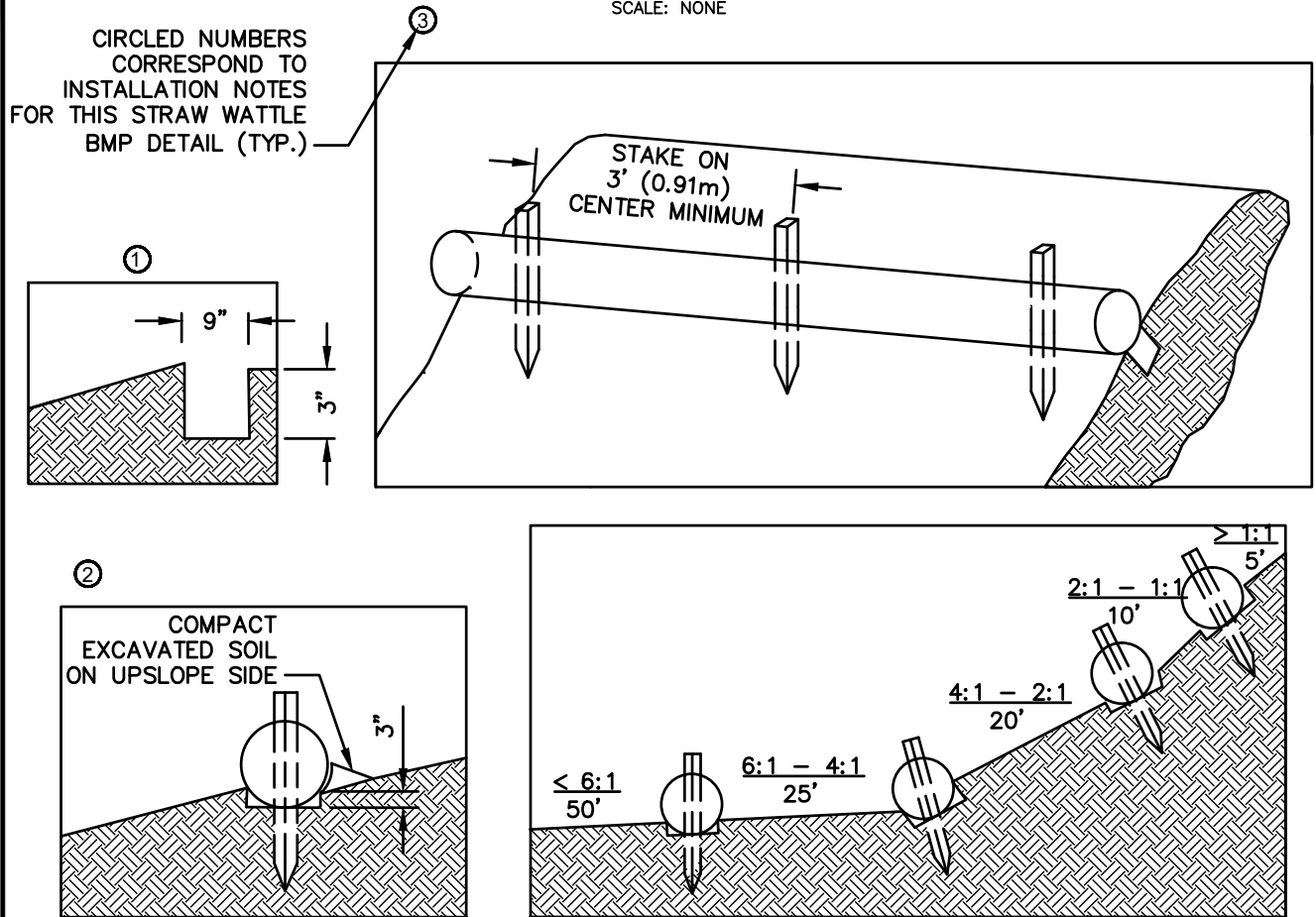
Access, Maintenance and Construction
Best Management Practices

Reference

EP No. 3 - Natural Resource
Protection (Chapter 6)

BMP DETAIL

SCALE: NONE



TYPICAL WATTLE SPACING DETAIL

NOTES:

1. PRODUCT TO BE TENSAR NORTH AMERICAN GREEN STRAW WATTLE OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. TYPICAL WATTLE SPACING BASED ON SLOPE GRADIENT. COORDINATE SPACING AND LOCATION WITH NATIONAL GRID ENVIRONMENTAL SCIENTIST.
3. MINIMUM 12" DIAMETER WATTLES SHOULD BE USED FOR HIGHLY DISTURBED AREAS (I.E., HEAVILY USED ACCESS ROAD WITH ADJACENT WETLAND) AND MINIMUM 9-10" WATTLES SHOULD BE USED FOR LESS DISTURBED SOILS.

INSTALLATION NOTES:

1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A 2-3" DEEP X 9" WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UPSLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
3. SECURE THE WATTLE WITH 18-24" HARDWOOD STAKES EVERY 3-4' AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2-3" OF STAKE EXTENDING ABOVE THE WATTLE. STAKES SHOULD BE DRIVEN PERPENDICULAR TO THE SLOPE FACE.

* DETAIL AND PICTURE PROVIDED BY TENSAR NORTH AMERICAN GREEN
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SEC-5
STRAW WATTLE * (1 OF 2)

SUBJECT

Access, Maintenance and Construction
Best Management Practices

Reference

EP No. 3 - Natural Resource
Protection (Chapter 6)

BMP PICTURE



**STRAW WATTLE – SHALLOW SLOPE ($\leq 4:1$)
(ALTERNATE STAKING)**

ALTERNATE STAKING INSTALLATION NOTES:

1. ON SHALLOW SLOPES ($\leq 4:1$), STRAW WATTLE MAY BE SECURED WITH 18–24” HARDWOOD STAKES DRIVEN AGAINST THE SIDES OF THE WATTLE INSTEAD OF THROUGH. STAKES SHALL ALTERNATE SIDES, AND BE SPACED 3–4’ MAX.
2. TWINE SHALL BE TIED FROM STAKE TO STAKE, CRISS–CROSSING THE STRAW WATTLE. TIE TWINE TO STAKES BELOW THE HEIGHT OF THE WATTLE.

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**SEC-5
STRAW WATTLE * (2 OF 2)**

SUBJECT

Access, Maintenance and Construction
Best Management Practices

Reference

EP No. 3 - Natural Resource
Protection (Chapter 6)

BMP PICTURE

SCALE: NONE



NOTES:

1. PRODUCT TO BE ALTURNAMATS' PREFABRICATED MATS OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. PRODUCT AVAILABLE IN 4X8' UNITS.
3. IF MATS ARE INSTALLED IN A WETLAND AREA, INSTALL EROSION CONTROLS TO CONTAIN MATERIAL UTILIZED IN THE MAT TRANSITIONS.

* PICTURE PROVIDED BY ALTURNAMATS
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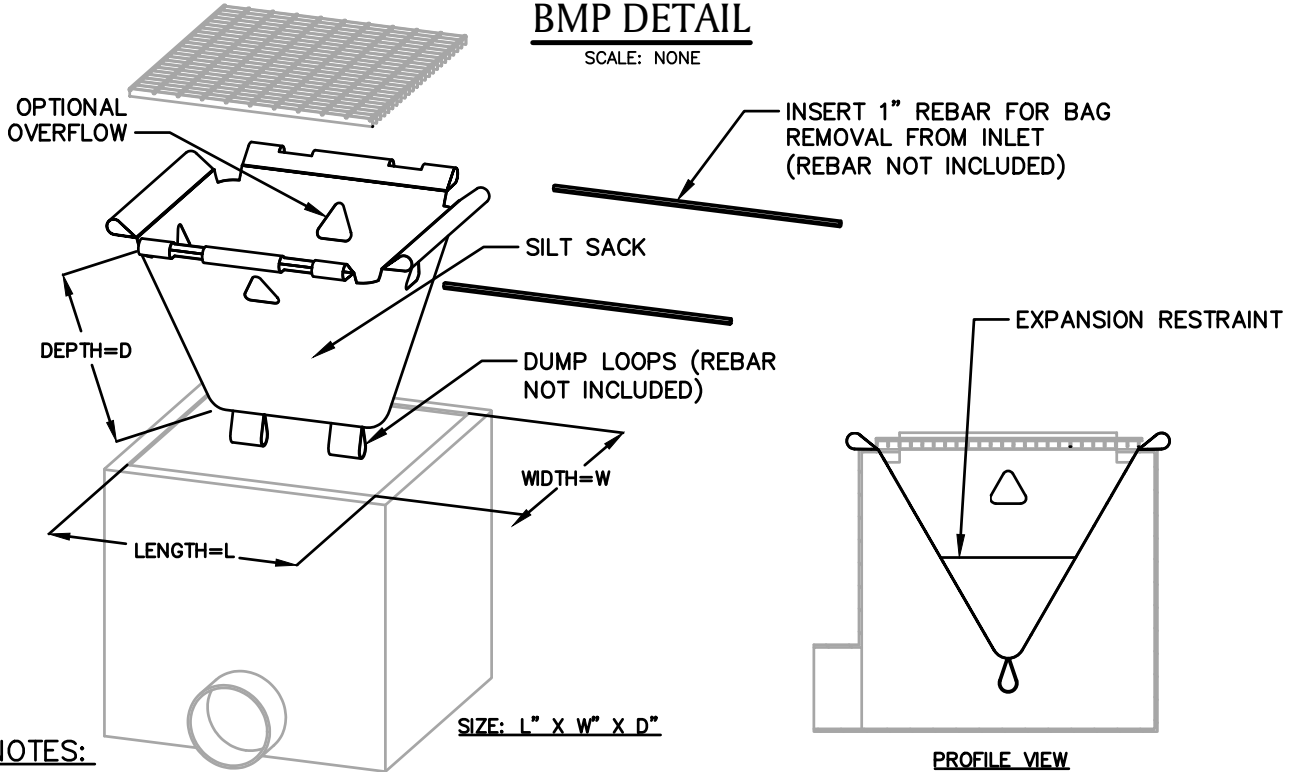
CM-1
PREFABRICATED MATS *

SUBJECT
Access, Maintenance and Construction
Best Management Practices

Reference
EP No. 3 - Natural Resource
Protection (Chapter 6)

BMP DETAIL

SCALE: NONE



NOTES:

1. PRODUCT TO BE SILT SACK OR APPROVED EQUAL BY NATIONAL GRID ENVIRONMENTAL SCIENTIST.
2. THE USE OF A SILT SACK OPTIONAL OVERFLOW AND OVERALL DIMENSIONS ARE TO BE COORDINATED WITH A NATIONAL GRID ENVIRONMENTAL SCIENTIST.

BMP PICTURE



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AA-20
SILT SACK *



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