

Residential Gas Service Installation Project
22 Spofford Road, Boxford, Massachusetts

REQUEST FOR DETERMINATION OF APPLICABILITY

Boston Gas Company
d/b/a National Grid

September 2020

Tighe & Bond

WO #1347854
N5068-029
September 3, 2020

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

Re: **Request for Determination of Applicability
Residential Gas Service Installation Project
Boston Gas Company d/b/a National Grid
22 Spofford Road, Boxford, Massachusetts**

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

On behalf of the Boston Gas Company d/b/a National Grid, Tighe & Bond respectfully submits this Request for Determination of Applicability (RDA) for a proposed residential gas service installation project at 22 Spofford Road in Boxford, Massachusetts. The proposed project consists of the installation of approximately 134 linear feet of a one-inch diameter plastic gas service line from the existing main within Spofford Road to service the residence located at 22 Spofford Road. This proposed gas service will extend to the southeast from the existing main within the road, along the northern edge of the driveway, where it will connect into the northeastern side of the residence.

This project is being filed as an RDA at the request of the Boxford Conservation Director, due to the project's proximity to Spofford Pond, and due to the presence of wetlands that are not included in the Massachusetts Department of Environmental Protection's wetland data layers; although no impacts will occur to any wetland resources or their associated buffers. 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 surrounding 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."*

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 26, 2020. 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 Global Positioning System (GPS) unit with sub-meter accuracy. Please refer to Figure 4 in Attachment B.

Bordering Vegetated Wetlands

Flag series 1A-1 to 1A-5: Wetland 1 is a Bordering Vegetated Wetland (BVW) located approximately 120 feet to the east of where the proposed gas service line will tie into the existing gas main located within the roadway of Spofford Road. A portion of this wetland has also been designated by the Natural Heritage & Endangered Species Program (NHESP) as a Certified Vernal Pool (NHESP CVP #1173). The wetland is best classified as palustrine, forested, broad-leaved deciduous, with a seasonally flooded/saturated hydroperiod (PFO1E). Hydrologic indicators observed during the site visit included standing water, a high water table (dry-season), soil saturation, an algal mat, inundation visible on aerial imagery, a sparsely vegetated concave surface, water stained leaves, drainage patterns, and geomorphic position. The soils displayed a very saturated mucky histic epipedon (10YR 2/1) overlaying a loamy sand matrix (10YR 3/2) with redoximorphic features (7.5YR 5/6). Common vegetation observed included red maple (*Acer rubrum*), red oak (*Quercus rubra*), royal fern (*Osmunda regalis*), poison ivy (*Toxicodendron radicans*), various sedges (*Carex* spp.), hemp dogbane (*Apocynum cannabinum*), duckweed (*Lemna* spp.), dotted smartweed (*Persicaria punctata*), sensitive fern (*Onoclea sensibilis*), and devil's beggarticks (*Bidens frondosa*).

Flag series 2A-1 to 2A-4: Wetland 2 is a BVW located approximately 135 feet to the southeast of where the proposed gas service line will tie into the residence at 22 Spofford Road. The wetland is best classified as palustrine, forested, broad-leaved deciduous, with a seasonally flooded/saturated hydroperiod (PFO1E). Hydrologic indicators observed during the site visit included standing water, a high water table (dry-season), soil saturation, inundation visible on aerial imagery, a sparsely vegetated concave surface, water stained leaves, drainage patterns, and geomorphic position. The soils displayed the same saturated mucky histic epipedon (10YR 2/1) overlaying a loamy sand matrix (10YR 3/2) with redoximorphic features (7.5YR 5/6) as seen in Wetland 1. Common vegetation observed included red maple, red oak, white ash (*Fraxinus americana*), royal fern, gray dogwood (*Cornus racemosa*), and poison ivy.

Bordering Land Subject to Flooding

The Federal Emergency Management Agency (FEMA) flood map (Panel No. 25009C0234F, 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.

Rare Species

The Massachusetts Natural Heritage and Endangered Species Program (NHESP) Atlas (14th edition, effective August 2017) 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. The nearby Spofford Pond and its surroundings have been designated as Priority Habitat (PH 2017), and as previously discussed, a portion of Wetland 1 has also been designated by the NHESP as a Certified Vernal Pool (NHESP CVP #1173).

Proposed Activities

The proposed project consists of the installation of approximately 134 linear feet of a one-inch diameter plastic gas service line from the existing main within Spofford Road to service the residence located at 22 Spofford Road. This proposed gas main will extend to the southeast from the existing main within the road, along the northern edge of the driveway, where it will connect into the northeastern side of the residence.

Construction of the new gas main will require the excavation of an approximately two-foot wide trench for safe installation. The trench bottom will be excavated and graded so that the pipe will be supported for its entire length on undisturbed bottom at a depth of approximately three feet below surface grade. Upon the completion of work, the trench will be backfilled and the site will be restored to pre-existing conditions. Work will be conducted by conventional construction equipment mobilized on the existing roadway and residential lawn.

The proposed work will not result in any impacts to wetland resources or their associated buffers. The areas where the work is proposed consists of existing paved roadway/driveway and residential lawn. 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 along the existing driveway and residential lawn. 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 next available public 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
Robert J. Mahoney, property owner

\\tighebond.com\data\Data\Projects\N\N5068 National Grid 2020 L&P\029 - 22 Spofford Road, Boxford\RDA\Archive\22 Spofford Road RDA Cover Letter - Final.docx

ATTACHMENT A

WPA FORM 1



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

Boxford
City/Town

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

2. Representative (if any):

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

1. a. Project Location (use maps and plans to identify the location of the area subject to this request):

<u>22 Spofford Road</u>	<u>Boxford</u>
Street Address	City/Town
<u>Tax Map 15</u>	<u>Block 1 / Lot 8</u>
Assessors Map/Plat Number	Parcel/Lot Number

b. Area Description (use additional paper, if necessary):

A full description of the proposed project area is attached in the cover letter to this application.

c. Plan and/or Map Reference(s):

<u>Site Location Map & Orthophotograph (Figures 1 & 3, Attachment B)</u>	<u>8/28/2020</u>
Title	Date
<u>Priority Resources Map (Figure 2, Attachment B)</u>	<u>8/28/2020</u>
Title	Date
<u>Site Plan (Figure 4, Attachment B)</u>	<u>9/1/2020</u>
Title	Date

2. a. Work Description (use additional paper and/or provide plan(s) of work, if necessary):

A full description of work to be completed is attached in the cover letter to this application.



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)

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.)

ATTACHMENT B

FIGURES



RESIDENTIAL GAS SERVICE INSTALLATION

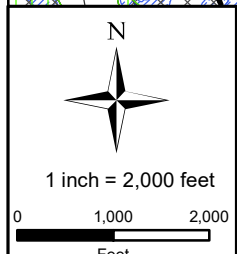
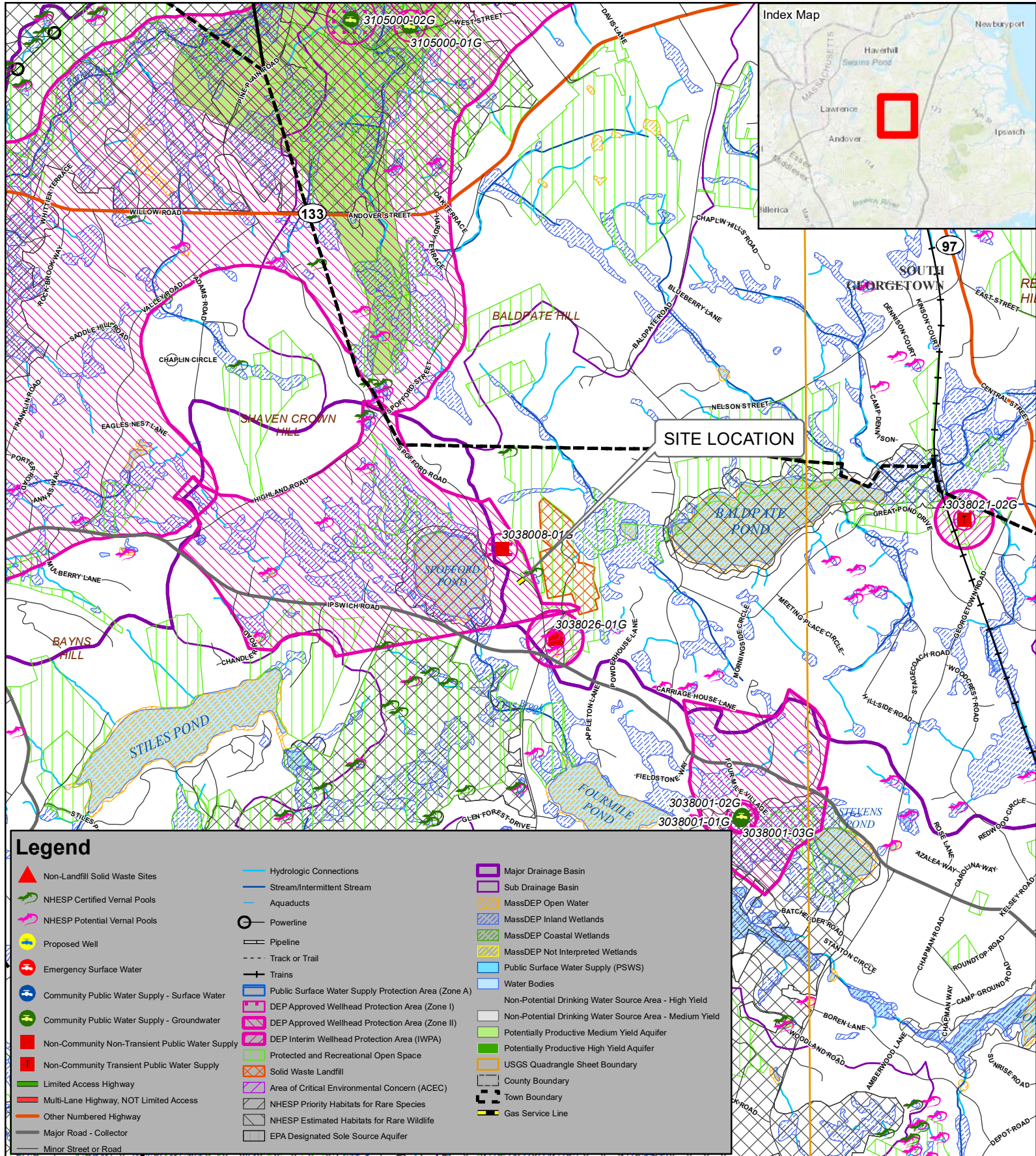
Site Location

22 Spofford Road
Boxford, Massachusetts

Figure 1

Based on USGS Topographic Map for South Groveland, MA Revised 1987 and Georgetown, MA Revised 1985. Contour Interval Equals 3 Meters. Circles indicate 500-foot and half-mile radii.





RESIDENTIAL GAS SERVICE INSTALLATION
Priority Resources
 22 Spofford Road
 Boxford, Massachusetts


Figure 2

Data source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology, Circles indicate 500-foot and half-mile radii. Data valid as of August 2020.


nationalgrid
Tighe&Bond



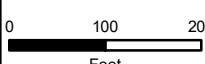
Legend

 Gas Service Line

N



1 inch = 200 feet



0 100 200
Feet

RESIDENTIAL GAS SERVICE INSTALLATION

Orthophotograph
22 Spofford Road
Boxford, Massachusetts

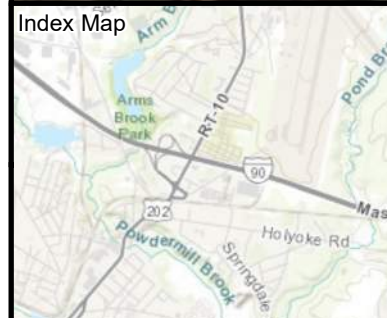
Figure 3

Based on MassGIS Color
Orthophotography (2019).



Total Length of Gas Service: 134 lf
 Total Trench Area: 268 sf

Resource Area Impacts:
 100-foot Buffer to BVW/Bank: 0 sf



Legend

- Gas Service Line
- Delineated BVW Boundary
- 100-foot Buffer to BVW/Inland Bank
- Wetland Area*

1 inch = 50 feet
 0 25 50
 Feet
 *Indicates Layers Set to Transparency

RESIDENTIAL GAS SERVICE INSTALLATION

Site Plan

22 Spofford Road
 Boxford, Massachusetts

Figure 4

Based on MassGIS Color Orthophotography (2019).

nationalgrid
Tighe&Bond
 Engineers | Environmental Specialists

ATTACHMENT C
SITE PHOTOGRAPHS

Photographic Log

Client: Boston Gas Company d/b/a National Grid

Job Number: N5068-029

Site: Residential Gas Service Installation Project - 22 Spofford Road, Boxford, Massachusetts

Photograph No.: 1	Date: 08/26/2020	Direction Taken: Southwest
Description: View from the northwestern terminus of the proposed gas service line (red line) where it ties into the existing gas main (blue line) within Spofford Road.		
		


Photograph No.: 2	Date: 08/26/2020	Direction Taken: Southeast
Description: Overview of Wetland 1 (PFO1E, NHESP Certified Vernal Pool #1173) located approximately 120 feet to the east of where the proposed service line will tie into the existing gas main.		
		

Photographic Log

Client: Boston Gas Company d/b/a National Grid

Job Number: N5068-029

Site: Residential Gas Service Installation Project - 22 Spofford Road, Boxford, Massachusetts

Photograph No.: 3	Date: 08/26/2020	Direction Taken: South
Description: Overview of Wetland 2 (PFO1E), located approximately 135 feet to the southeast of where the proposed gas service line will tie into the residence at 22 Spofford Road.		
		

ATTACHMENT D
ABUTTER INFORMATION

TOWN OF BOXFORD

ABUTTER LIST

PARCEL # 15-01-08 - 22 SPOFFORD ROAD - CONSERVATION COMMISSION 250'

PARCEL ID	PARCEL ADDRESS	OWNER 1	OWNER 2	MAILING ADDRESS	CITY/TOWN	STATE	ZIP CODE
15-01-03	32 SPOFFORD RD	CARBERRY WAYNE A & JANET A TE	C/O LINDA LUCY	32 SPOFFORD RD	BOXFORD	MA	01921
15-01-04	33 SPOFFORD RD	TOWN OF BOXFORD		7A SPOFFORD RD	BOXFORD	MA	01921
15-01-08	22 SPOFFORD RD	MAHONEY ROBERT J	MAHONEY TARA L	22 SPOFFORD RD	BOXFORD	MA	01921
19-01-01	12 SPOFFORD RD	GIALLOMBARDO ROBERT J TE	GIALLOMBARDO SUSAN R	12 SPOFFORD RD	BOXFORD	MA	01921
19-01-02	315 IPSWICH RD	VIKTOR PISHCHULIN	IULIIA PISHCHULINA	315 IPSWICH RD	BOXFORD	MA	01921
19-01-02-2	321 IPSWICH RD	COX LESLIE NYE		321 IPSWICH RD	BOXFORD	MA	01921
19-01-02-A	10 SPOFFORD RD	ROSEN PAMELA B		10 SPOFFORD RD	BOXFORD	MA	01921
19-03-28	7 SPOFFORD RD	TOWN OF BOXFORD		7 SPOFFORD RD	BOXFORD	MA	01921

CERTIFIED COPY



August 25, 2020

ATTACHMENT E

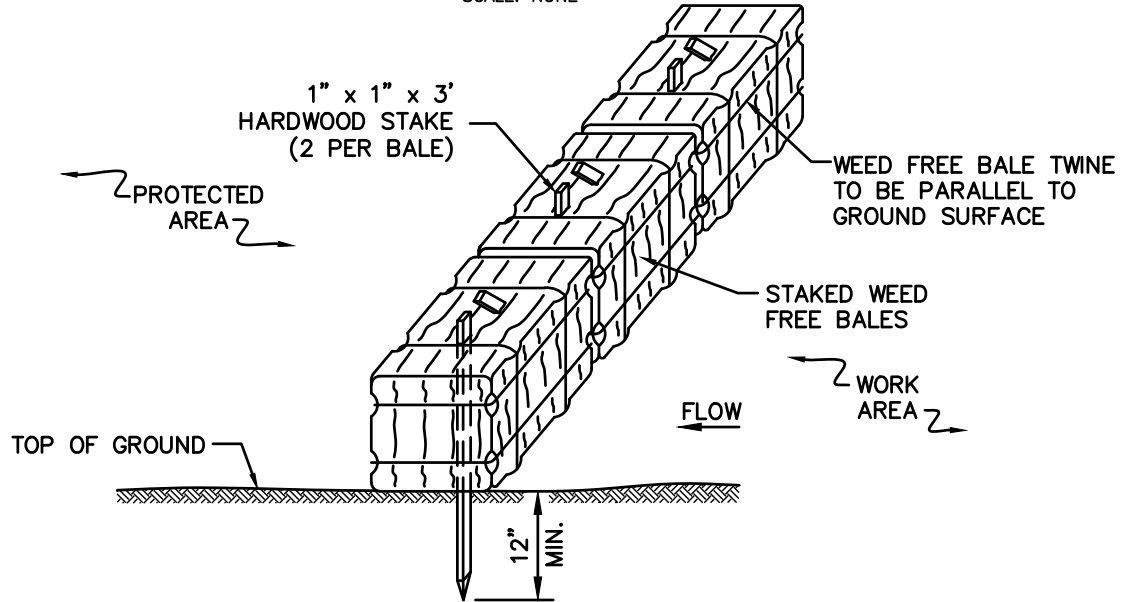
NATIONAL GRID BEST MANAGEMENT PRACTICES

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

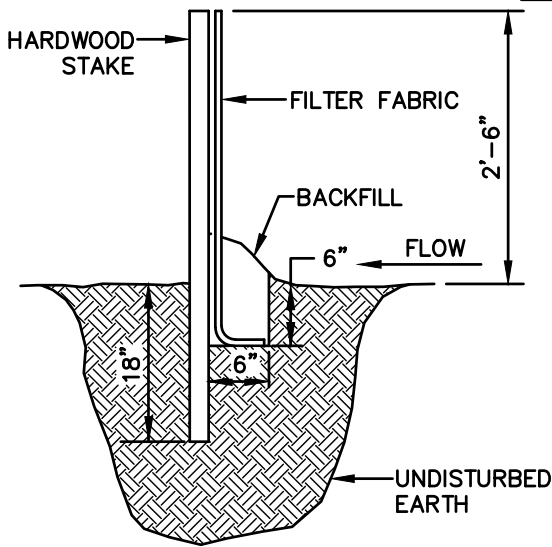
Access, Maintenance and Construction
Best Management Practices

Reference

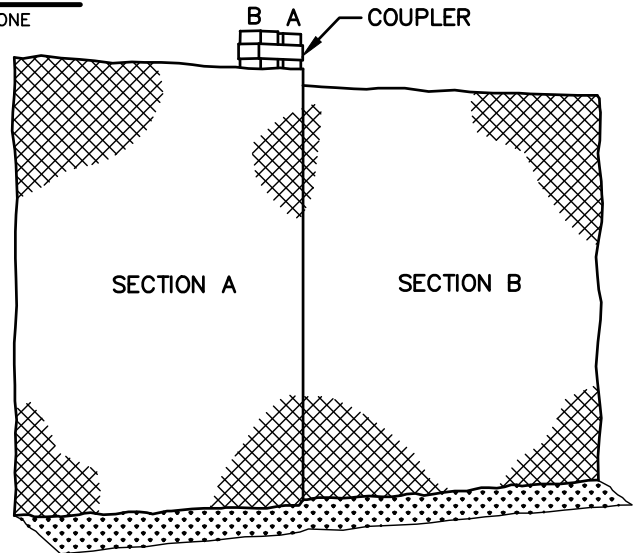
EP No. 3 - Natural Resource
Protection (Chapter 6)

BMP DETAIL

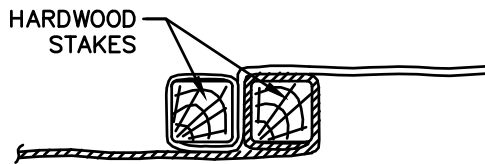
SCALE: NONE



PROFILE



SECTION



PLAN

BMP PICTURE



File: Sediment_Fence.dwg

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

SEC-2
SEDIMENT CONTROL FENCE

SUBJECT

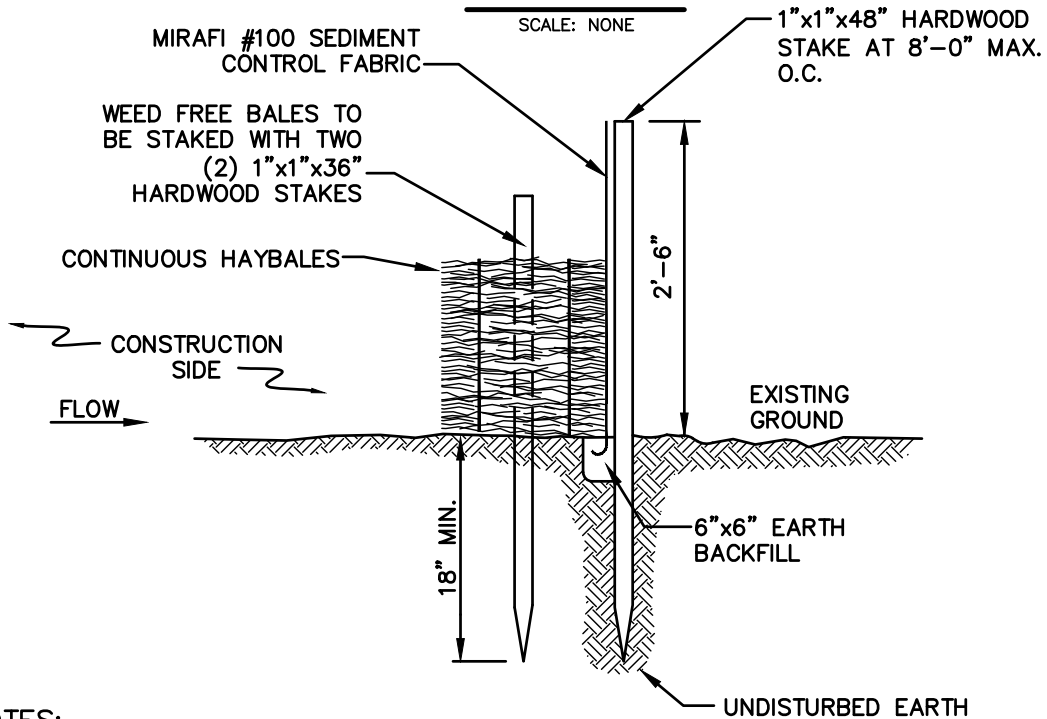
Access, Maintenance and Construction
Best Management Practices

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.

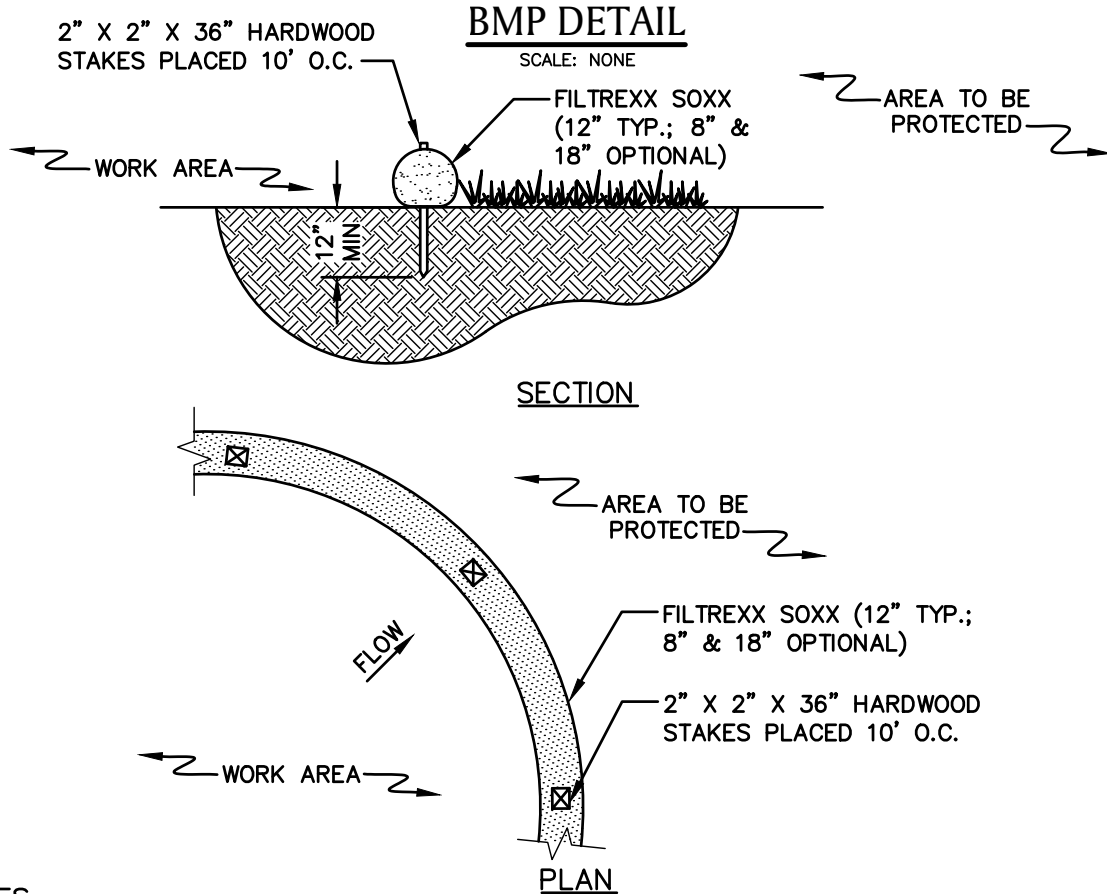
SEC-3
SILT FENCE /
WEED FREE BARRIER

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

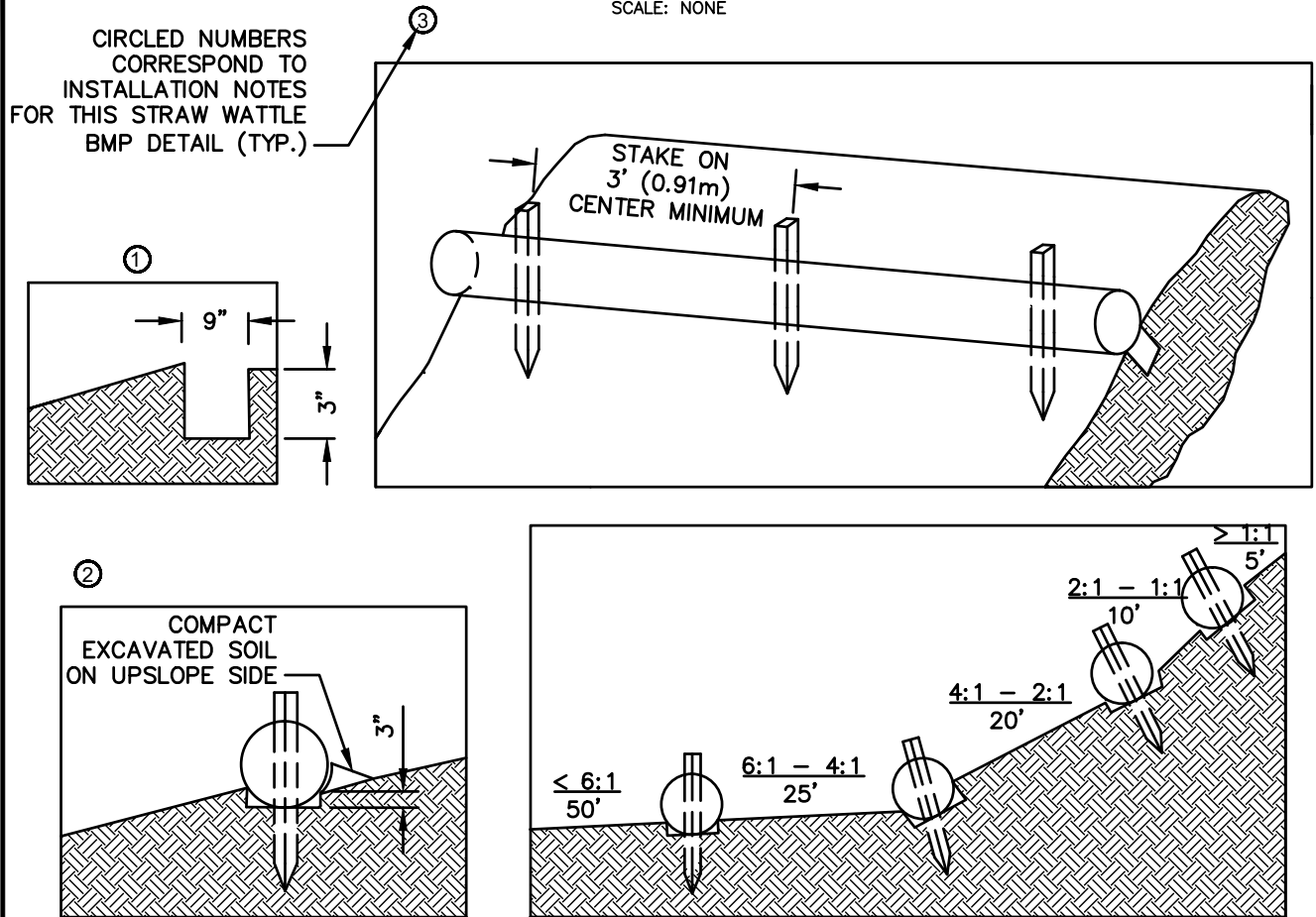
Access, Maintenance and Construction
Best Management Practices

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
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-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.

*** DETAIL AND PICTURE PROVIDED BY TENSAR NORTH AMERICAN GREEN
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-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

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.

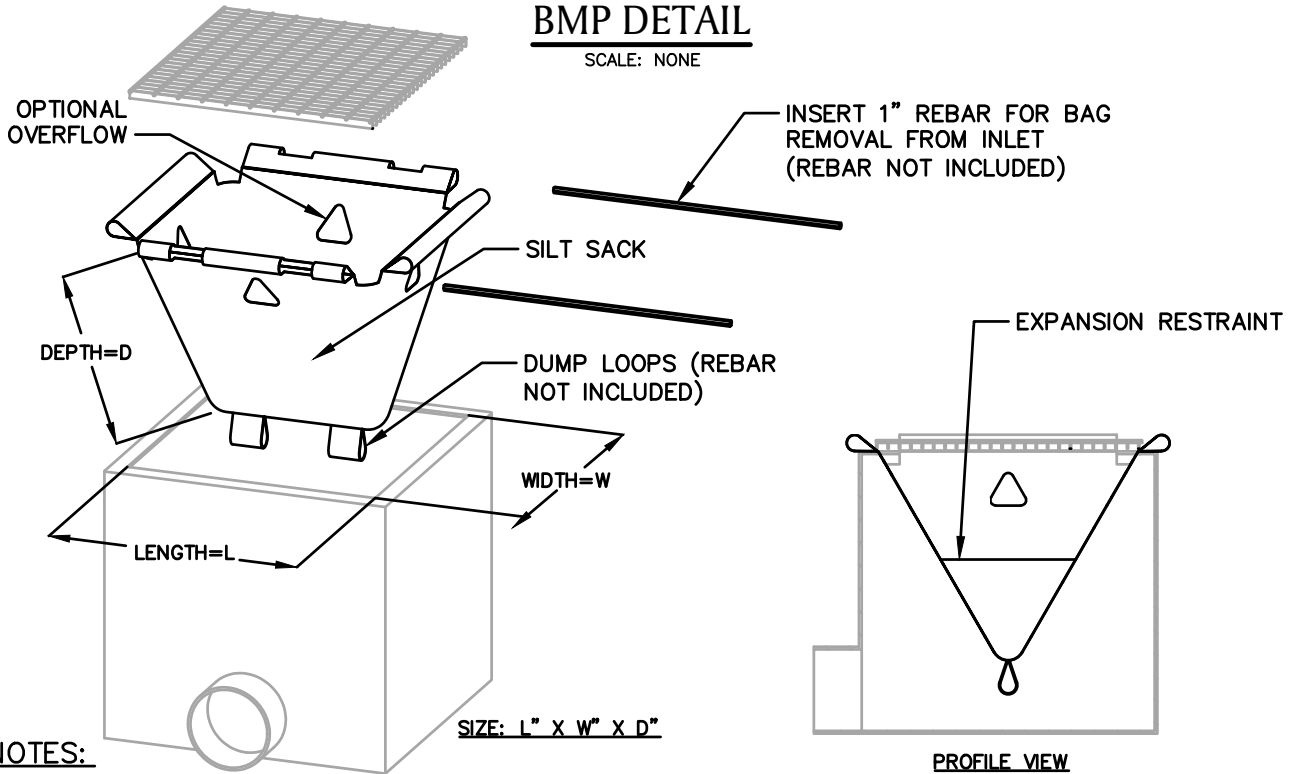
CM-1
PREFABRICATED MATS *

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



* DETAIL PROVIDED BY ACF ENVIRONMENTAL
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.

AA-20
 SILT SACK *



100% Recyclable 

www.tighebond.com