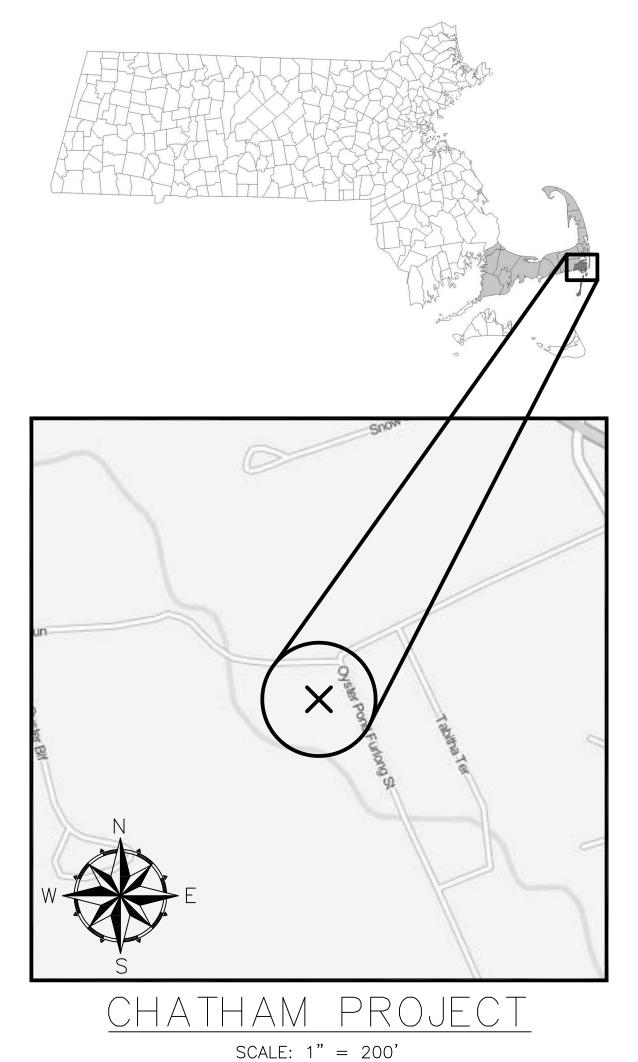
EPA Green Infrastructure Stormwater BMP Retrofit for Two Cape Cod Municipalities A Demonstration and Outreach Project

CHATHAM, MA
NOVEMBER 2015 - CONSTRUCTION AS-BUILTS

CHATHAM, MA
Oyster Pond BMP - Gravel Bioretention Cell,
Oyster Pond Furlong & Absegami Run

SHEET	<u>TITLE</u>
C-1	EXISTING CONDITIONS AND WETLAND BUFFERS
C-2	GRADING PLAN
C-3	DRAINAGE LAYOUT
C-4	UTILITY LAYOUT
C-5	LANDSCAPING AND SURFACE TREATMENTS
C-6	DETAILS
C-7	DETAILS





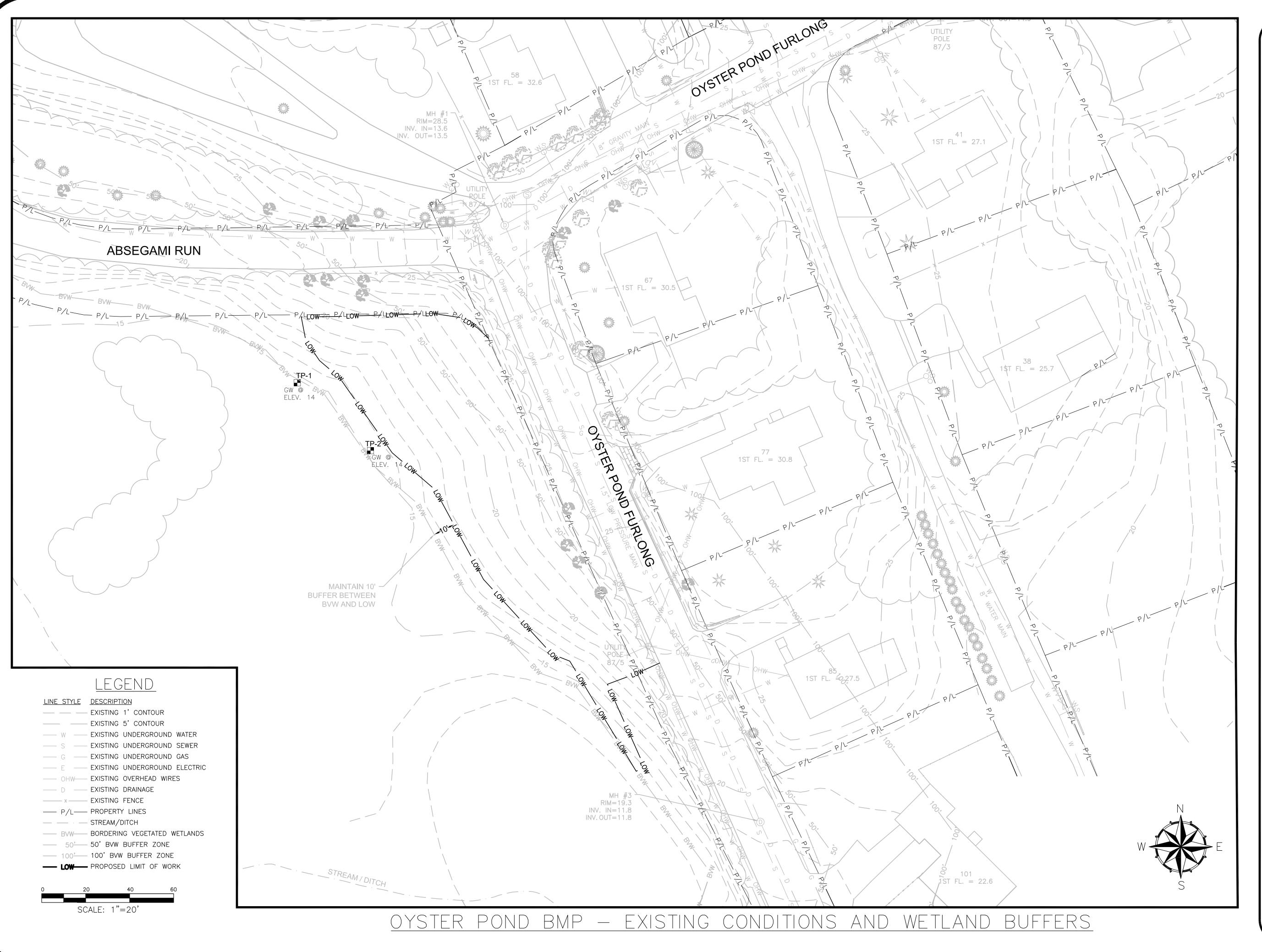
5 POST OFFICE SQUARE, SUITE 100 BOSTON, MA 02109



481 GREAT ROAD, SUITE 3 ACTON, MA 01720



21 DEPOT STREET
MERRIMACK, NH 03054



1. THE LOCATION OF UNDERGROUND UTILITIES HAVE NOT BEEN VERIFIED OR INSPECTED. THE CONTRACTOR, PRIOR TO COMMENCEMENT OF CONSTRUCTION, SHALL VERIFY THE LOCATION OF ALL UTILITIES AND CONTACT "DIG-SAFE" AT 1-888-344-7233.

2. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO PREVENT ANY DAMAGE TO ADJACENT PROPERTIES.
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		6	As—Builts	11/15
		5	Revised Design for Const.	06/15
		4	100% Design for Const.	04/15
		3	90% Design	03/15
		2	60% Design	02/15
		1	Conceptual	01/15
	1	No.	Revision/Issue	Date



481 GREAT ROAD, SUITE 3 ACTON, MA 01720



COMPREHENSIVE ENVIRONMENTAL INCORPORATED

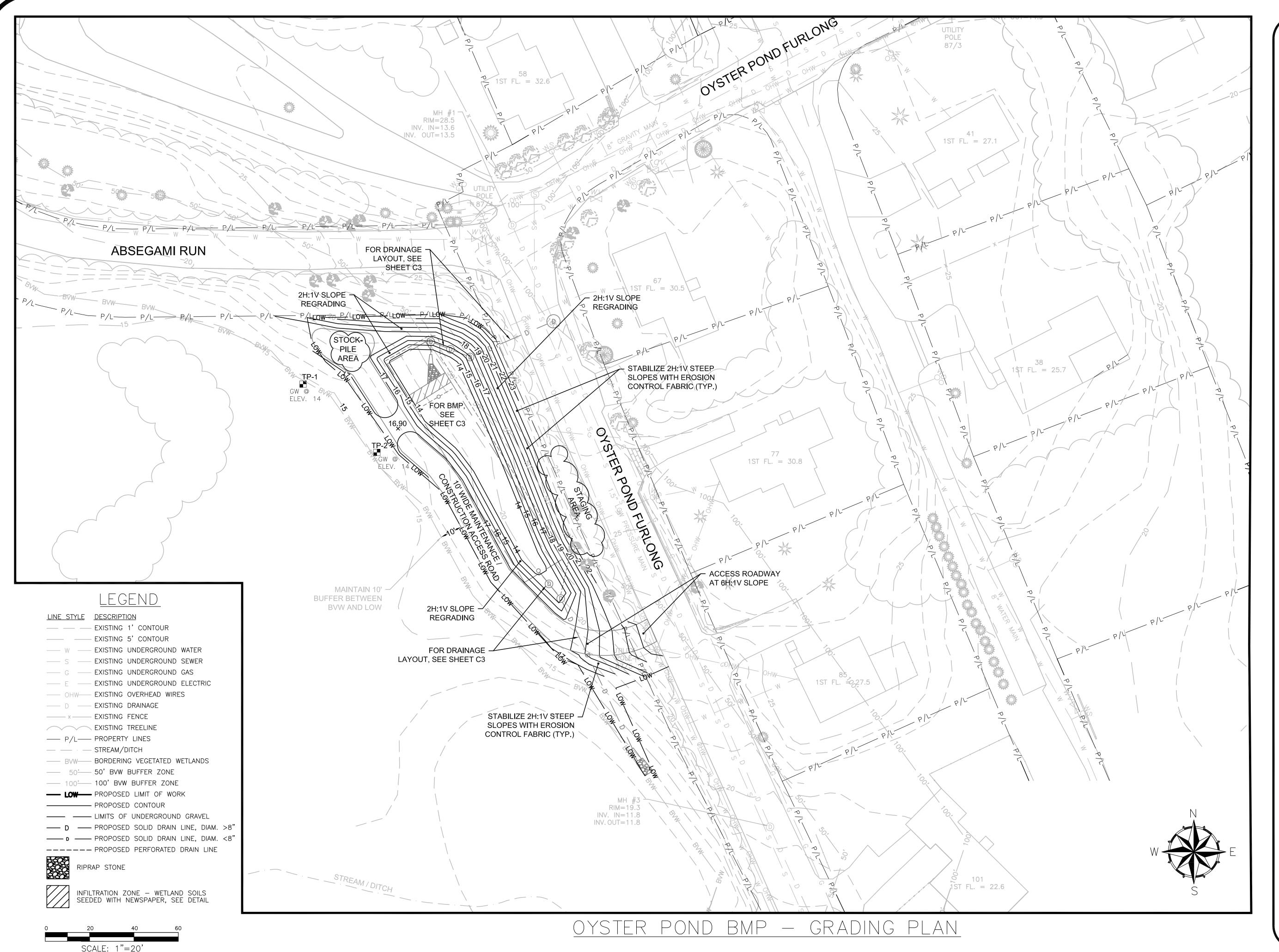
21 DEPOT STREET MERRIMACK, NH 03054

EPA Green Infrastructure Education and Outreach Project

OYSTER POND BMP, GRAVEL BIORETENTION CELL

Oyster Pond Furlong and Absegami Run, Chatham, MA

Project No.: 677-2 Date: NOVEMBER 2015	Sheet
Drawn By: NC Checked By: ML	C-1
Horizontal Datum: NAD88	
Vertical Datum: NAVD88	



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ENVIRONMENTAL INCORPORATED

21 DEPOT STREET

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EPA Green Infrastructure Education and Outreach Project

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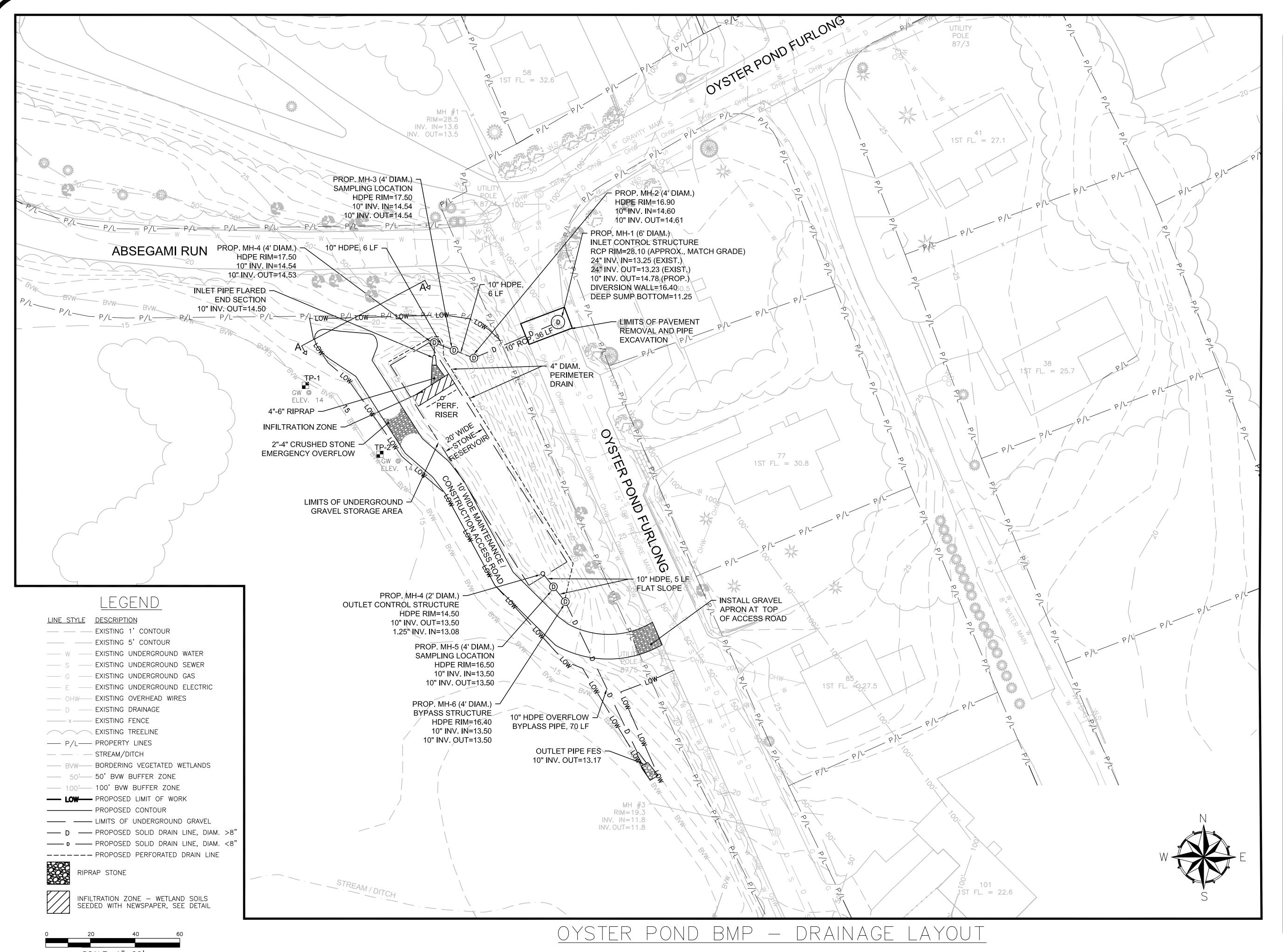
Oyster Pond Furlong and Absegami Run, Chatham, MA

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481 GREAT ROAD, SUITE 3 ACTON, MA 01720



ENVIRONMENTAL INCORPORATED 21 DEPOT STREET

MERRIMACK, NH 03054

EPA Green Infrastructure Education and Outreach Project

OYSTER POND BMP, GRAVEL BIORETENTION CELL

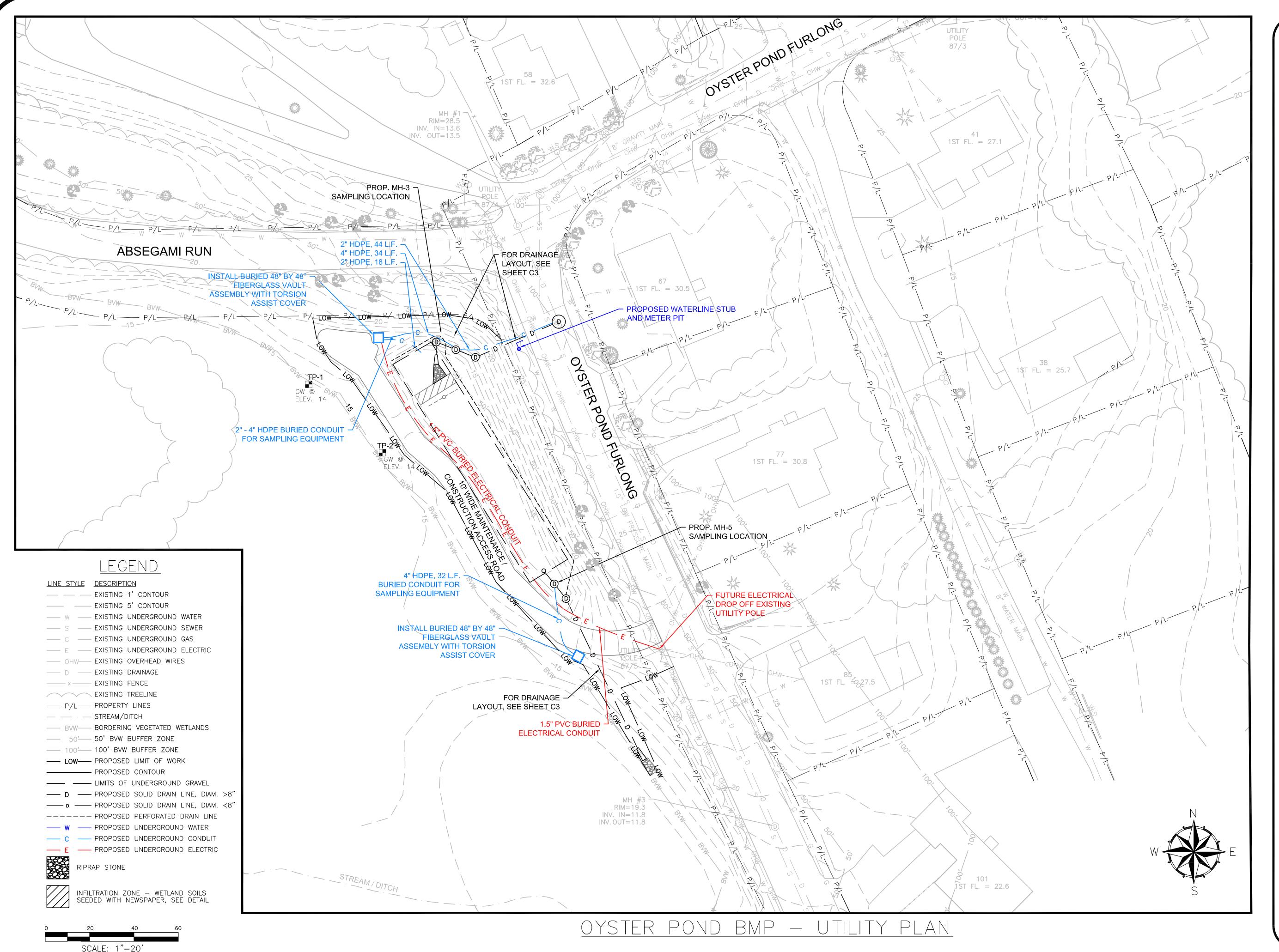
Oyster Pond Furlong and Absegami Run, Chatham, MA

(-3)

Project No.: 677-2 Date: NOVEMBER 2015

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	7	Utility Layout As—Built	11/15
	6	Utility Layout	10/15
	5	Revised Design for Const.	06/15
	4	100% Design for Const.	04/15
	3	90% Design	03/15
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WaterVision, LLC

481 GREAT ROAD, SUITE 3 ACTON, MA 01720



COMPREHENSIVE ENVIRONMENTAL INCORPORATED

21 DEPOT STREET

MERRIMACK, NH 03054

EPA Green Infrastructure Education and Outreach Project

OYSTER POND BMP, GRAVEL BIORETENTION CELL

Oyster Pond Furlong and Absegami Run, Chatham, MA

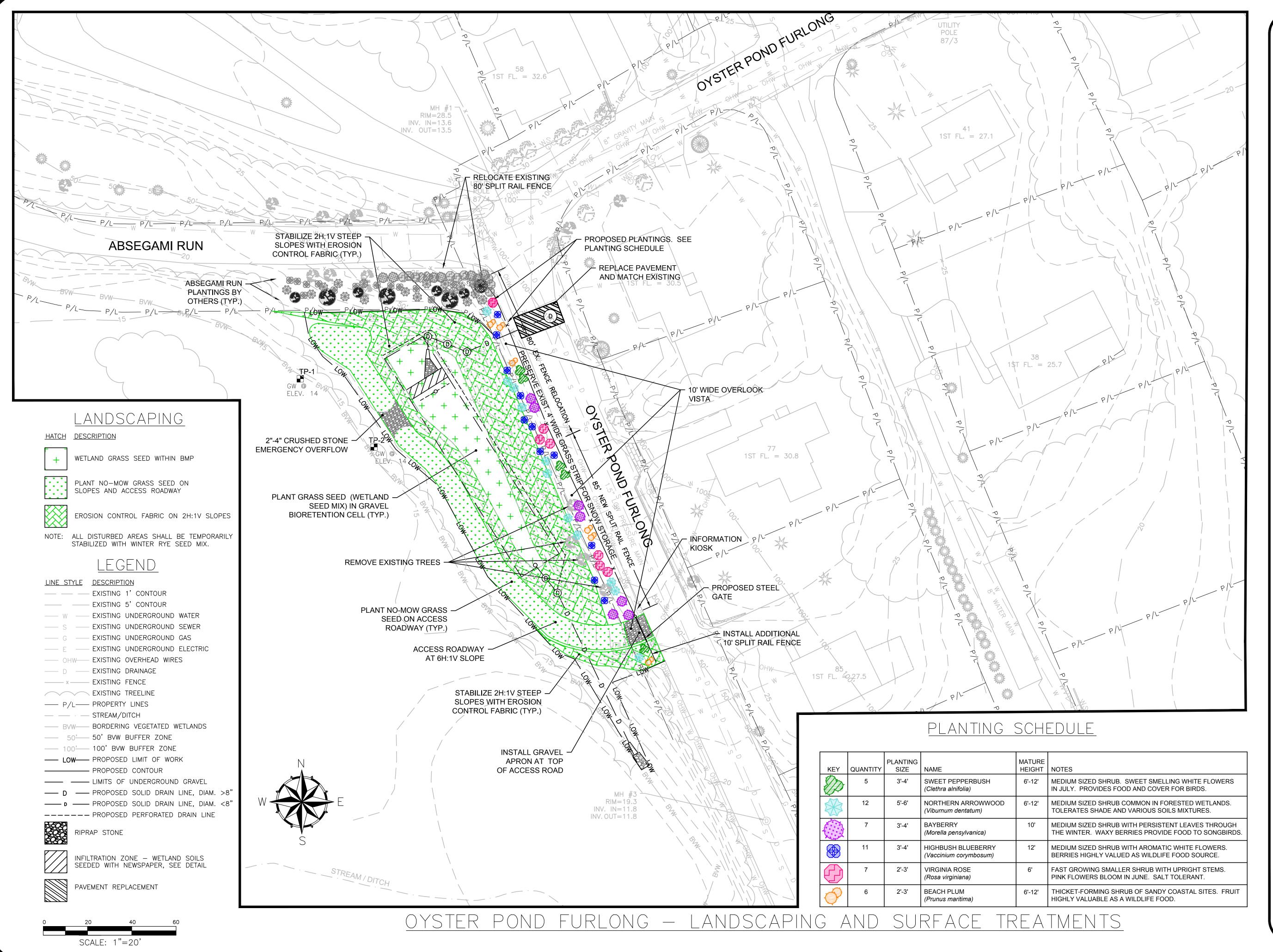
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	5	Revised Design for Const.	06/15
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21 DEPOT STREET MERRIMACK, NH 03054

EPA Green Infrastructure Education and Outreach Project

OYSTER POND BMP, GRAVEL BIORETENTION CELL

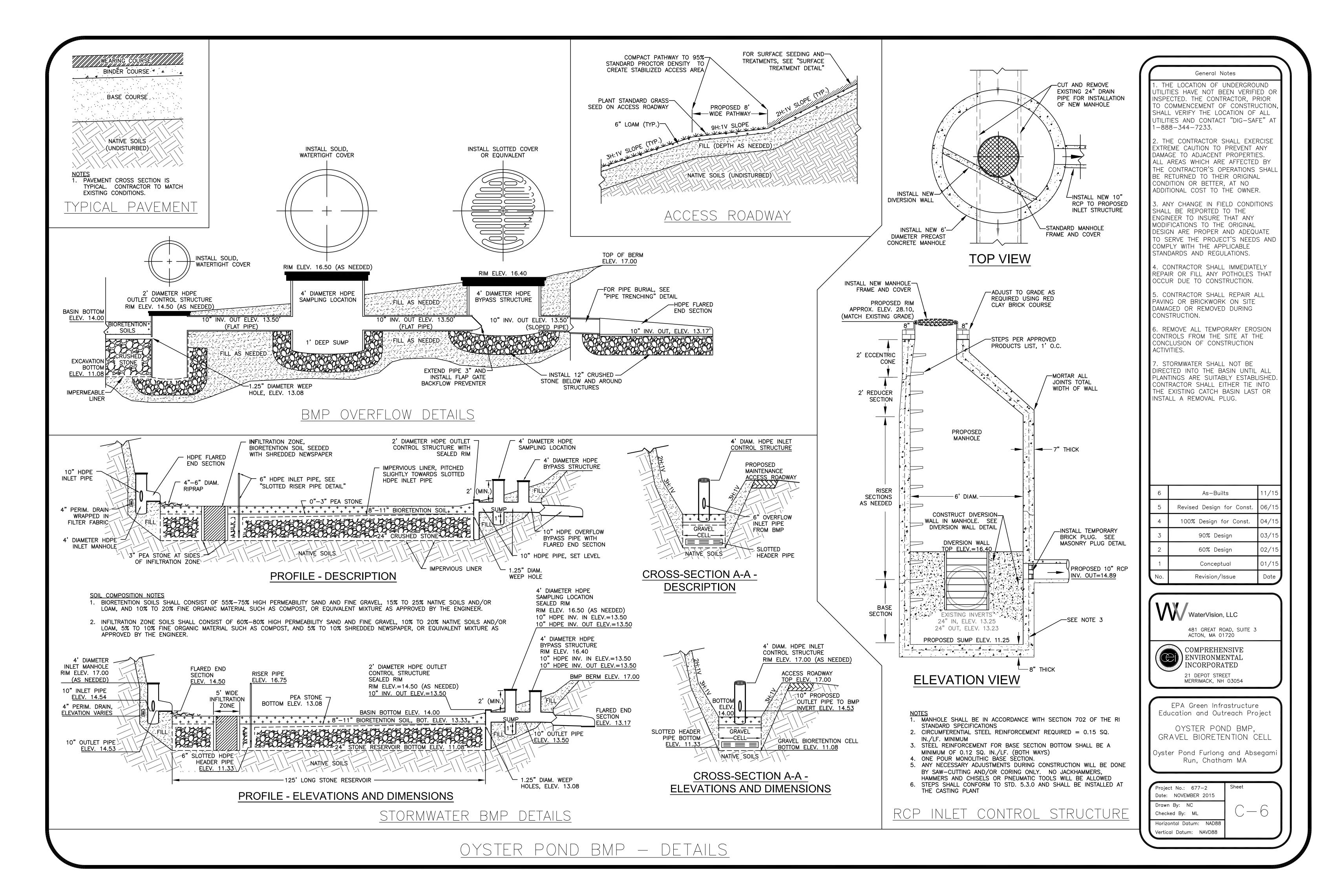
Oyster Pond Furlong and Absegami Run, Chatham, MA

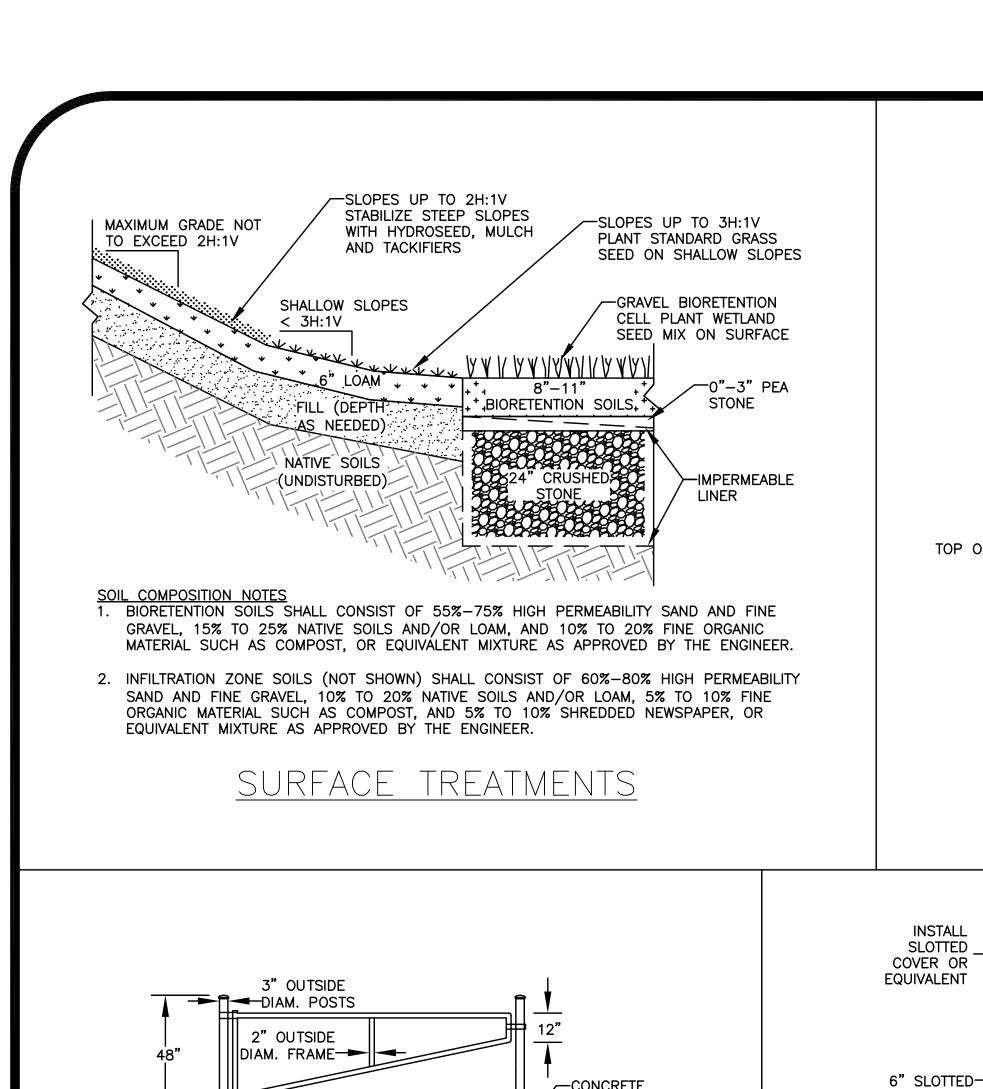
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Project No.: 677-2 Date: NOVEMBER 2015	
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GATE SPECIFICATIONS

1. GATE SHALL EITHER BE COATED IN GREEN

VINYL OR FIELD PAINTED DARK GREEN.

GATE DETAIL

SEE PLANS-FOR FINAL

EXISTING GROUND-

SURFACE

TYPE-A GRAVEL BORROW-

COMPACTED TO 95% MAX. DRY

DENSITY 6" MAX. STONE SIZE

PROTECTION ZONE, SAND OR-

MAXIMUM STONE SIZE - 2"

COMPACTED CRUSHED STONE-

BEDDING AGAINST LEDGE

1 ½" MAX. STONE SIZE

12" MIN. CLEARANCE-

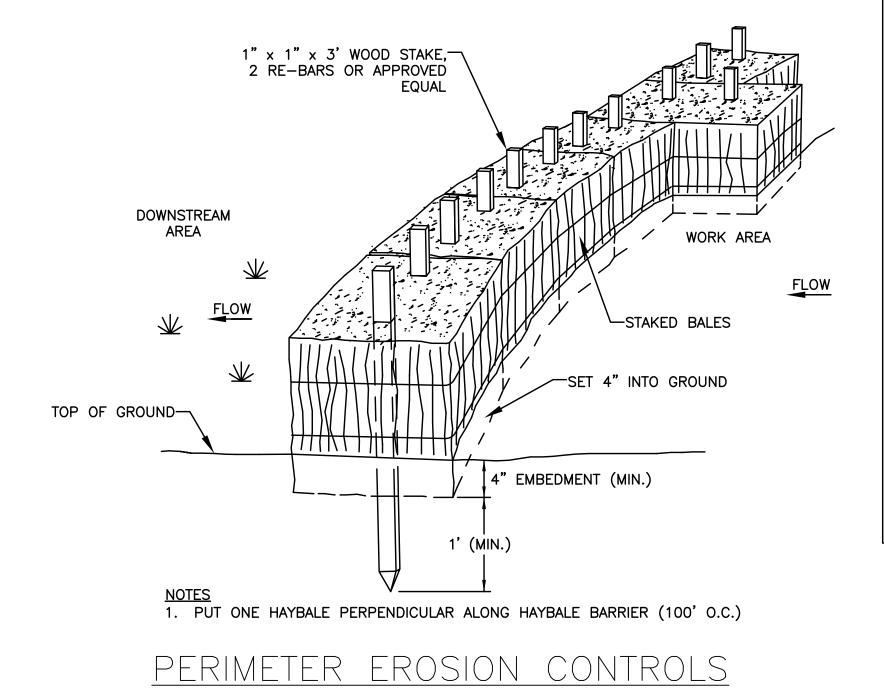
COMPACTED AS SPECIFIED ABOVE.

TYPE-C GRAVEL BORROW

UNPAVED PAVED

-CONCRETE

FOOTINGS



SLOTTED

∕—6" SLOTTED

HDPE PIPE

∕—6" SLOTTED

HDPE PIPE |

6" SOLID HDPE PIPE

ADJACENT TO BIO-

BIORET. SOILS+

STONE

| 24" CRUSHED | | | |

0"-3" PEA | 0"-3" PEA

ELEVATION VIEW

TOP OF WALL

PROPOSED SUMP, SEE INLET DETAILS

ELEV. 16.40 4

RETENTION SOIL LAYER

COVER OR

EQUIVALENT

ELEV. 17.00

BASIN BOTTOM

ELEV. 14.00

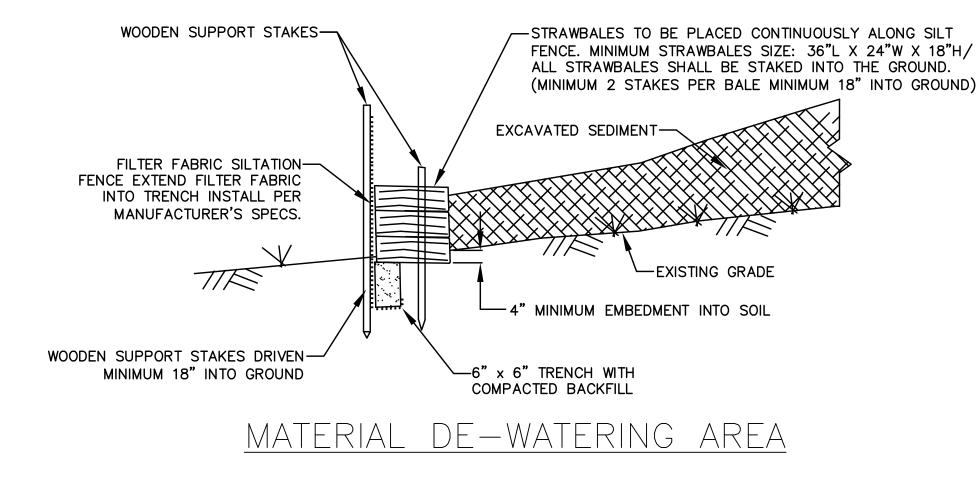
EXCAVATION

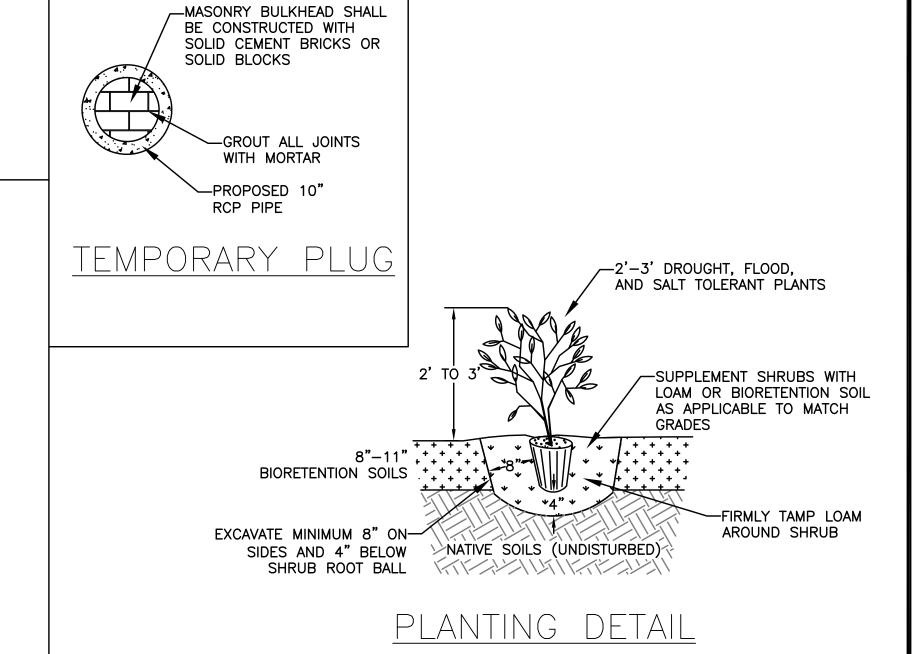
ELEV. 11.08

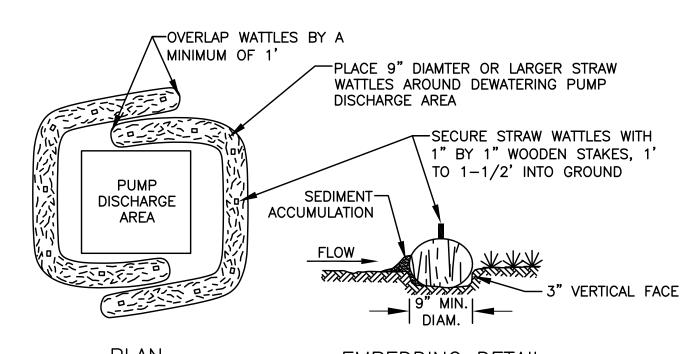
PROPOSED 10"

SEE INLET DETAILS

OUTLET PIPE,



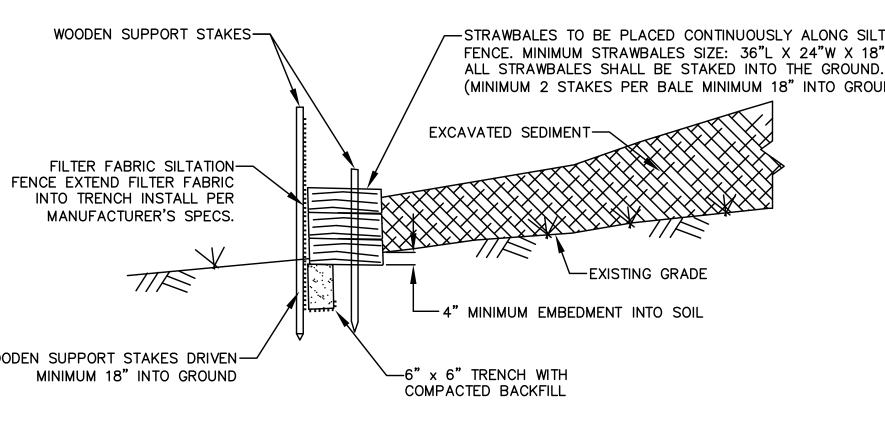


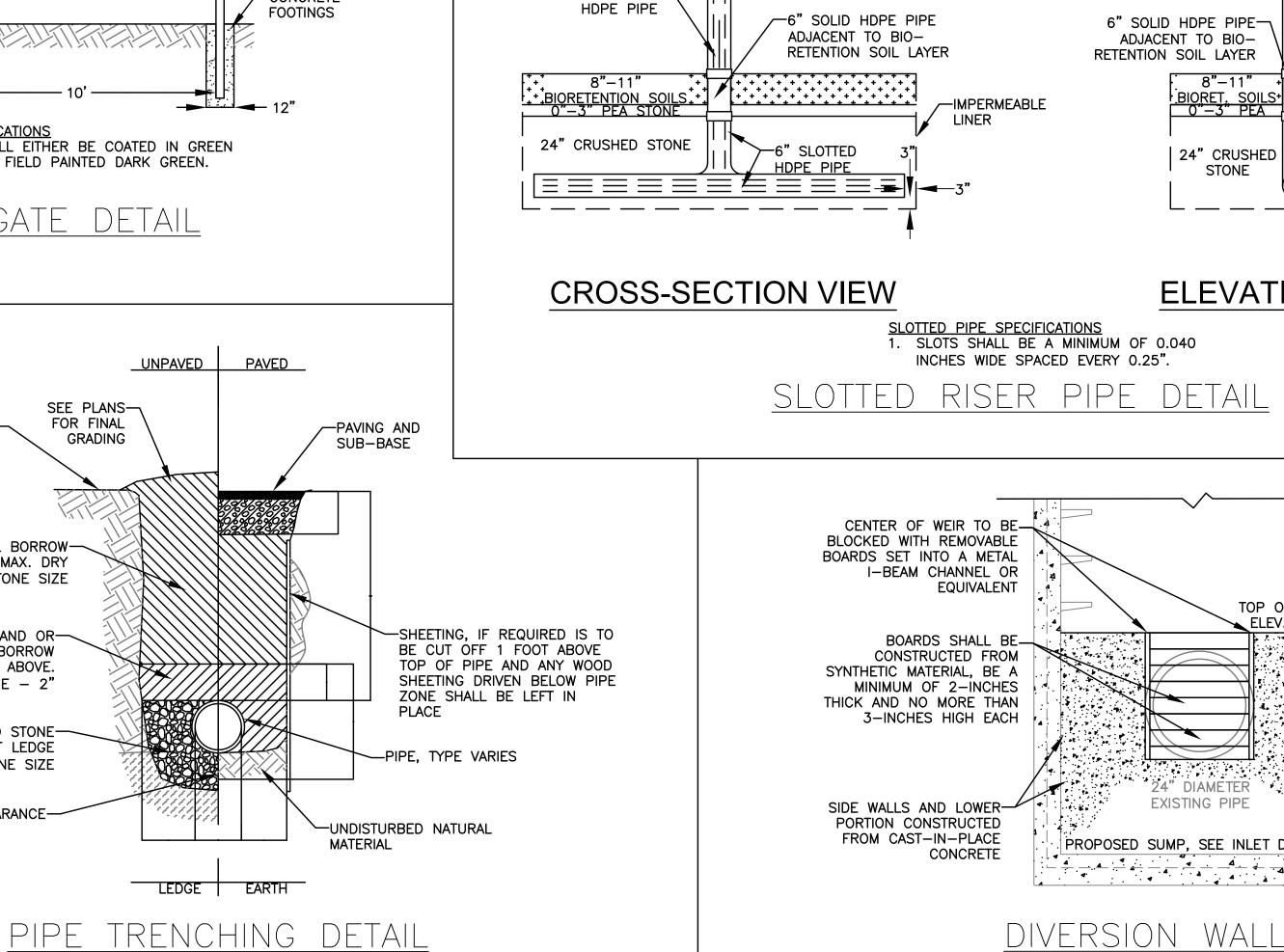


STRAW WATTLE DEWATERING AREA CONSTRUCTION SPECIFICATIONS 1. WATTLES SHALL BE PLACED IN A ROW WITH ENDS OVERLAPPING A MINIMUM OF 1'.

- 2. EACH WATTLE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 3".
- 3. WATTLES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS INSTALLED AT A MINIMUM EVERY 3' ON-CENTER.
- 4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- 5. SEDIMENT SHALL BE REMOVED WHEN THE HEIGHT REACHES THE HALFWAY POINT ON THE STRAW WATTLE.

PUMPING DE-WATERING DISCHARGE AREA





SLOTTED

—PLACE COVER JUST

BELOW TOP OF BERM

COVER OR

EMBEDDING DETAIL

EPA Green Infrastructure Education and Outreach Project

OYSTER POND BMP, GRAVEL BIORETENTION CELL

General Notes

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As-Builts

Revised Design for Const.

100% Design for Const.

90% Design

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INCORPORATED

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WaterVision, LLC

06/15

3/15

1/15

Date

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CONDITION OR BETTER, AT NO

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