



**US Army Corps
of Engineers®**
New England District
696 Virginia Road
Concord, MA 01742-2751

PUBLIC NOTICE

Comment Period Begins: July 14, 2015
Comment Period Ends: August 14, 2015
File Number: NAE-2014-00638
In Reply Refer To:
Phone: (978) 318-8976
E-mail: megan.o.bishop@usace.army.mil

The District Engineer has received a permit application to conduct work in waters of the United States, as described below.

APPLICANT: Wallingford Group, LLC, 173 Church Street, Yalesville, Connecticut 06492

LOCATION AND WATERWAY OF THE PROPOSED WORK: This work is proposed in Padens Brook, at 59 and 65 North Plains Highway, in Wallingford, Connecticut. Padens Brook is a direct tributary to the Quinnipiac River. The site coordinates are: Latitude 41.47445, Longitude -72.82231.

DESCRIPTION OF PROPOSED WORK: The applicant has requested after-the-fact authorization to maintain fill in Padens Brook associated with the installation of a box culvert. Work on-site was initiated on March 21, 2014, and includes the discharge of fill material into Paden's Brook for the construction of a 160-foot long by 12-foot wide by 6-foot high box culvert (207 cubic yards below the ordinary high water (OHW) elevation of Padens Brook), the backfilling of the culvert, and realignment of the perennial stream channel as well as the construction of an upstream headwall (2 cubic yards below OHW), downstream headwall (3 cubic yards), upstream wing walls (12 cubic yards below the OHW), and downstream wing walls (13 cubic yards below the OHW). Following construction, the Town of Wallingford identified that the box culvert was installed at an elevation higher than the streambed, and required that rock be discharged immediately upstream of the culvert to elevate the streambed and prevent undercutting of the structure. Approximately 7 cubic yards of rock were discharged within the upstream plunge pool to elevate the streambed as well as to provide erosion protection along the toe of slope. Similarly, approximately 21 cubic yards of rock were installed within the downstream plunge pool for erosion protection and to raise the streambed to the installed culvert height. The completed work is further detailed in the table below and on attached Sheets 1-14.

Work	Dimensions (feet)	Discharge below OHW (cubic yards)
box culvert	160 x 12 x 6	207
box culvert backfill		213
upstream headwall	12.8 x 1.8	2
downstream headwall	14.7 x 2.3	3
upstream wing wall	(north side 2.1 x 1.8) (south side 18.5 x 1.7)	12
downstream wing wall	(north side 15.8 x 2.1) (south side 2.5 x 2.6)	13

upstream plunge pool rock	12 x 15	7
downstream plunge pool rock	25 x 25	21
TOTAL:		478

The stated purpose of the project is to connect two parcels of land to provide a staging and storage area for the construction of large pre-cast concrete structures.

The work is shown on the attached plans entitled “Padens Brook Box Culvert Crossing, 59 and 65 North Plains Highway, Wallingford, Connecticut,” on 14 sheets, dated March 3, 2015.

AVOIDANCE AND MINIMIZATION:

The applicant attempted to avoid and minimize impacts to the aquatic resources on-site by locating the culvert within the narrowest segment of the stream. The stream at this location is approximately 10 feet wide while downstream, the stream measures approximately 17 feet in width.

COMPENSATORY MITIGATION:

To compensate for the permanent impact to 160 linear feet of stream, the applicant has proposed on-site stream habitat enhancement measures. Specifically, the applicant has proposed the installation of twelve stainless steel angles (six 30 degree angles and six 90 degree angles) within the box culvert to hold streambed material within the otherwise smooth-bottomed culvert. Approximately 36 cubic yards of cobble and gravel will also be discharged within the culvert. Obtained from a sand and gravel processing plant, the cobble and gravel will be discharged to a depth of roughly six inches and will serve as stream substrate. The applicant anticipates high flows within the culvert to remove material from the thalweg of the stream channel. Yet, cobble and gravel habitat is expected to remain around the baffles.

In the upstream plunge pool, 10 linear feet (2 cubic yards below OHW) of installed rip-rap will be removed and replaced with 93 linear feet (35 cubic yards below OHW) of boulders. The boulders are proposed to provide erosion protection and a more natural-looking stream bank in combination with upslope plantings of gray dogwood. Three boulder clusters (4 cubic yards) are also proposed to be installed within the upstream plunge pool area to provide fish habitat.

Within the downstream enhancement area, approximately 25 linear feet (7 cubic yards below OHW) of installed rip-rap is proposed to be removed and replaced with 50 linear feet (19 cubic yards below OHW) of boulders. One root wad will be installed on each side of the stream, in between the boulders, for habitat, and a pool will be excavated within the stream channel, downstream of the boulders. Silky dogwood saplings are proposed to be planted along the downstream enhancement area.

In conjunction with the Town’s requirement to manage Japanese knotweed on-site, the applicant has proposed herbicidal application and fall cutting/removal within the remaining segment of open stream channel on-site to help control the knotweed. Within the knotweed management area, it is proposed to allow native vegetation to become established naturally.

AUTHORITY

Permits are required pursuant to:

- Section 10 of the Rivers and Harbors Act of 1899
- Section 404 of the Clean Water Act

____ Section 103 of the Marine Protection, Research and Sanctuaries Act.

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Where the activity involves the discharge of dredged or fill material into waters of the United States or the transportation of dredged material for the purpose of disposing it in ocean waters, the evaluation of the impact of the activity in the public interest will also include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act, and/or Section 103 of the Marine Protection Research and Sanctuaries Act of 1972, as amended.

ESSENTIAL FISH HABITAT

The proposed project will not impact Essential Fish Habitat (EFH).

NATIONAL HISTORIC PRESERVATION ACT

Based on preliminary findings, there do not appear to be any properties listed in, or eligible for listing in, the National Register of Historic Places within the permit area, as shown on Sheet 14 of 14. The National Register of Historic Places has been consulted and it has been determined that there are no properties currently listed in the register that are in the area affected by the proposed project. Additionally, the site was previously filled and graded in 2012. The past activity is expected to have caused some soil disturbance, but much of the work appears to have involved the grading of deposited soils. Due to the lack of known historic resources in the vicinity of the proposed project, the size and scope of the project, as well as the past disturbance on-site, the Corps has determined that the proposed project will have no effect on historic properties. This notice constitutes initiation of consultation with the Connecticut State Historic Preservation Office (SHPO) per Section 106 of the National Historic Preservation Act. All currently available historic resource information pertaining to this proposed project, if any, has been provided to the CT SHPO. Additional information concerning historic properties should be submitted to the Corps before the end of the comment period of this notice. The Corps will forward that information to the CT SHPO for their review.

ENDANGERED SPECIES CONSULTATION

The New England District, Army Corps of Engineers has reviewed the list of species protected under the Endangered Species Act of 1973, as amended, which might occur at the project site. The proposed project is located within the geographic range of the northern long-eared bat (threatened). The bat prefers to roost near stream corridors, in standing dead trees, or mature trees with dead snags or exfoliating bark. Through the winter, the bat shelters in caves and abandoned mines. Much of the work on-site has occurred in advance of permit review. The site presently contains a graded upland area that has been levelled and paved with heavily compacted ash. Around the southern and western sides of the site, an extensive forested floodplain wetland is found. Based on aerial photography, it appears the upland areas were cleared of trees prior to 2005. The remainder of the grading was undertaken in 2013 and 2014 for the proposed project. The remaining riparian forested habitat was cleared in 2014 for the construction of the project. Assuming a similar riparian corridor to that found upstream and downstream, this area likely contained American elm and red maple, with a sparse understory that included some Japanese knotweed. The northern long-eared bat was only afforded Endangered Species Act protection beginning in May, 2015. However, the work on-site was initiated on March 21, 2014. Any suitable habitat for the bat within the project area was removed in advance of the species listing. Thus, due to a lack of suitable habitat on-site, the Corps has determined that the proposed project will have no effect on the northern long-eared bat. Furthermore, it is our preliminary determination that the proposed activity for which authorization is being sought is designed, situated, or will be operated/used in such a manner that it is not likely to adversely affect any Federally listed endangered or threatened species or their designated critical habitat. By this Public Notice, we are requesting that the appropriate Federal Agency concur with our determination.

The following authorizations have been applied for, or have been, or will be obtained:

- Permit, License or Assent from State.
- Permit from Local Wetland Agency or Conservation Commission.
- Water Quality Certification in accordance with Section 401 of the Clean Water Act.

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. Comments should be submitted in writing by the above date. If you have any questions, please contact Megan Bishop at (978) 318-8976 or (800) 362-4367, if calling from outside Massachusetts.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The Corps holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK



Robert J. DeSista
Chief, Permits and Enforcement Branch
Regulatory Division

CENAE-R-B
FILE NO. NAE-2014-00638

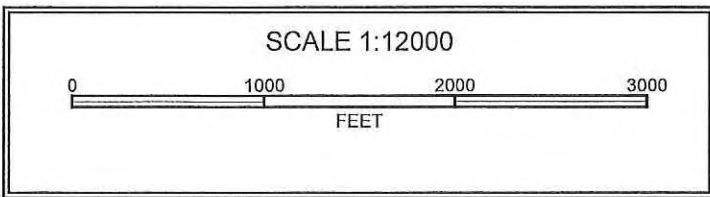
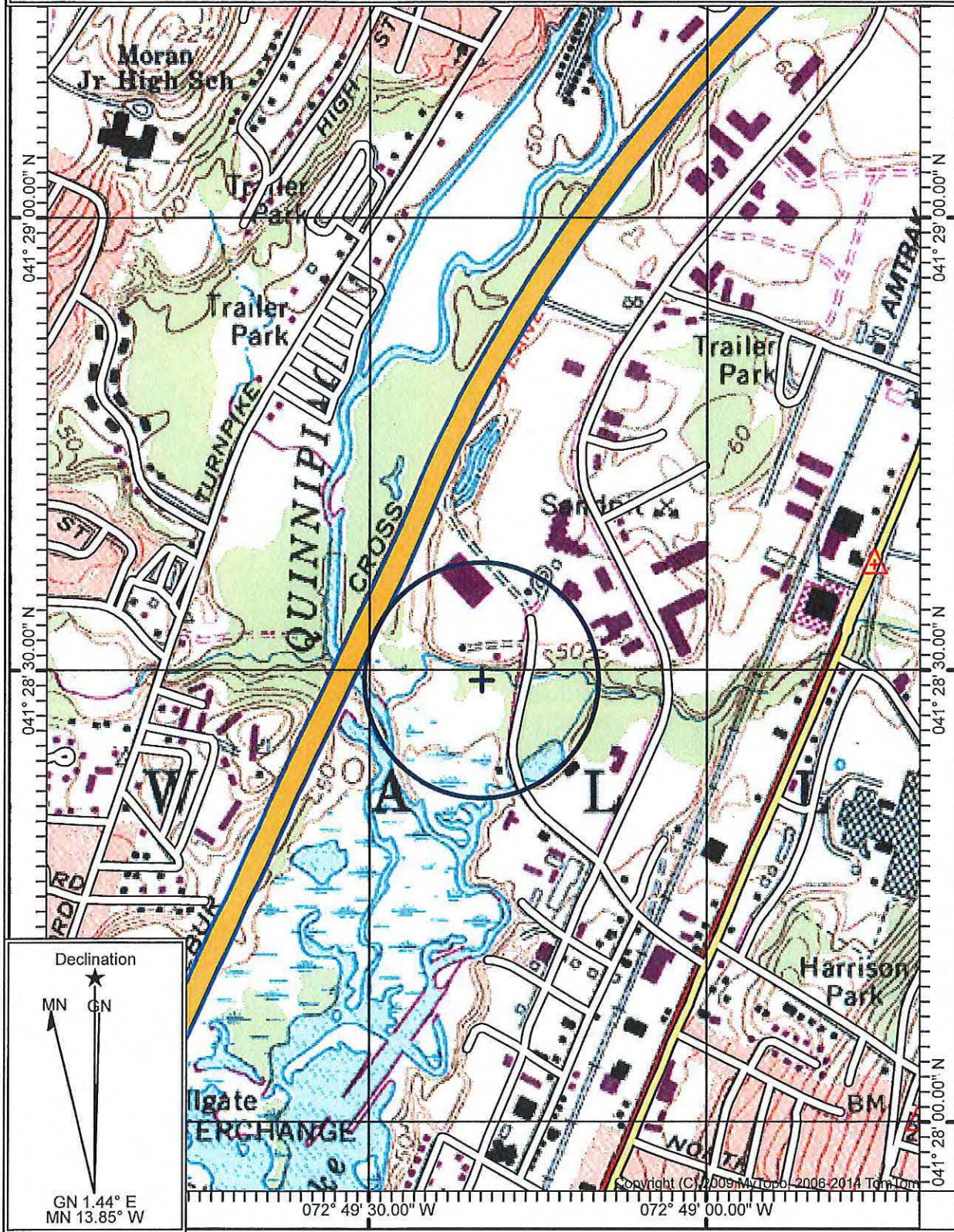
If you would prefer not to continue receiving Public Notices by email, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at Bettina.M.Chaisson@usace.army.mil. You may also check here () and return this portion of the Public Notice to: Bettina Chaisson, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751.

NAME: _____
ADDRESS: _____
PHONE: _____

Map Name: WALLINGFORD
Print Date: 08/18/14

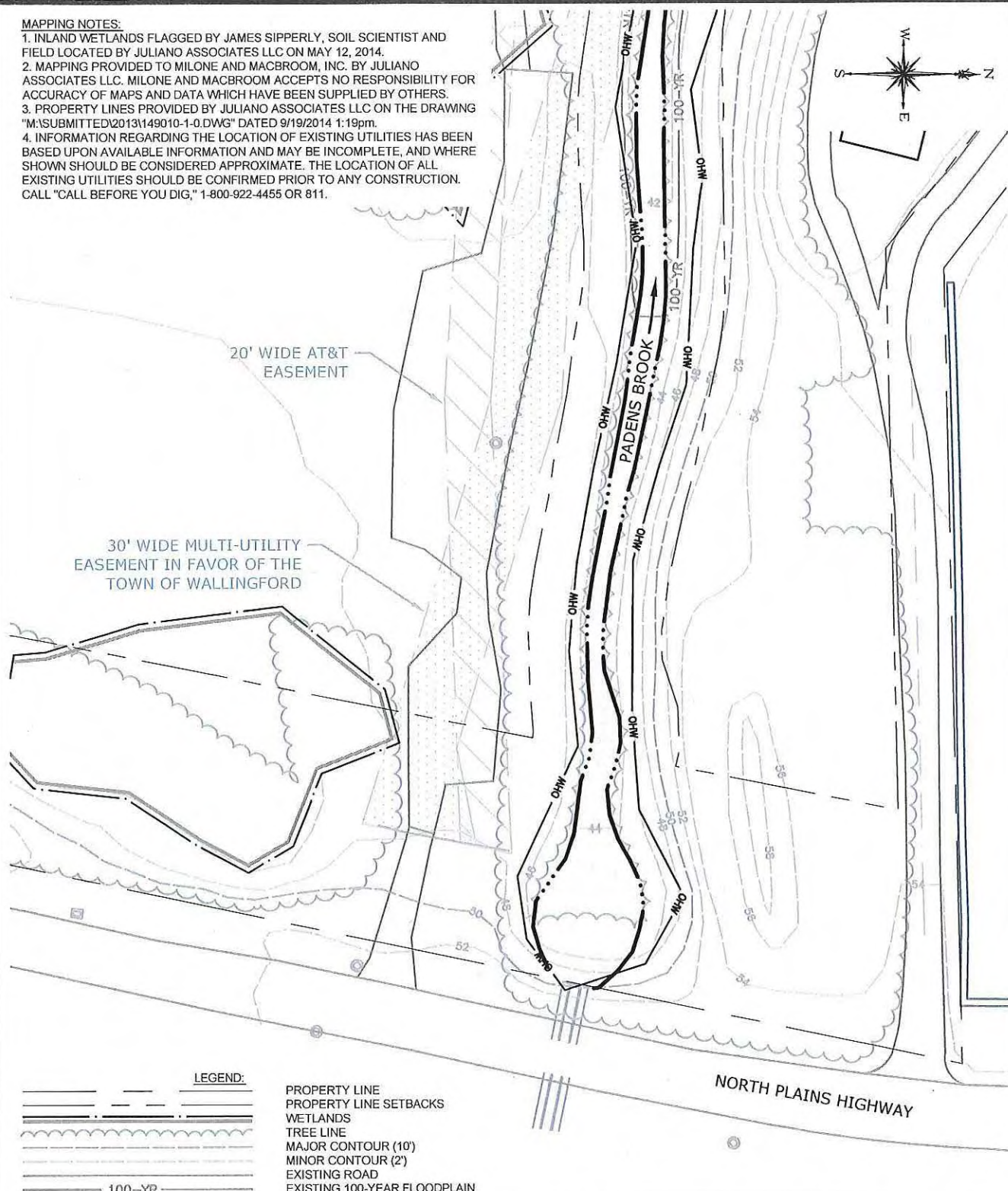
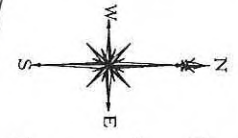
Scale: 1 inch = 1,000 ft.
Map Center: 041° 28' 35.31" N 0

Horizontal Datum: NAD27



MAPPING NOTES:

1. INLAND WETLANDS FLAGGED BY JAMES SIPPERLY, SOIL SCIENTIST AND FIELD LOCATED BY JULIANO ASSOCIATES LLC ON MAY 12, 2014.
2. MAPPING PROVIDED TO MILONE AND MACBROOM, INC. BY JULIANO ASSOCIATES LLC. MILONE AND MACBROOM ACCEPTS NO RESPONSIBILITY FOR ACCURACY OF MAPS AND DATA WHICH HAVE BEEN SUPPLIED BY OTHERS.
3. PROPERTY LINES PROVIDED BY JULIANO ASSOCIATES LLC ON THE DRAWING "M:\SUBMITTED\2013\149010-1-0.DWG" DATED 9/19/2014 1:19pm.
4. INFORMATION REGARDING THE LOCATION OF EXISTING UTILITIES HAS BEEN BASED UPON AVAILABLE INFORMATION AND MAY BE INCOMPLETE, AND WHERE SHOWN SHOULD BE CONSIDERED APPROXIMATE. THE LOCATION OF ALL EXISTING UTILITIES SHOULD BE CONFIRMED PRIOR TO ANY CONSTRUCTION. CALL "CALL BEFORE YOU DIG," 1-800-922-4455 OR 811.



LEGEND:	
	PROPERTY LINE
	PROPERTY LINE SETBACKS
	WETLANDS
	TREE LINE
	MAJOR CONTOUR (10')
	MINOR CONTOUR (2')
	EXISTING ROAD
	EXISTING 100-YEAR FLOODPLAIN

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PREVIOUS EXISTING CONDITIONS

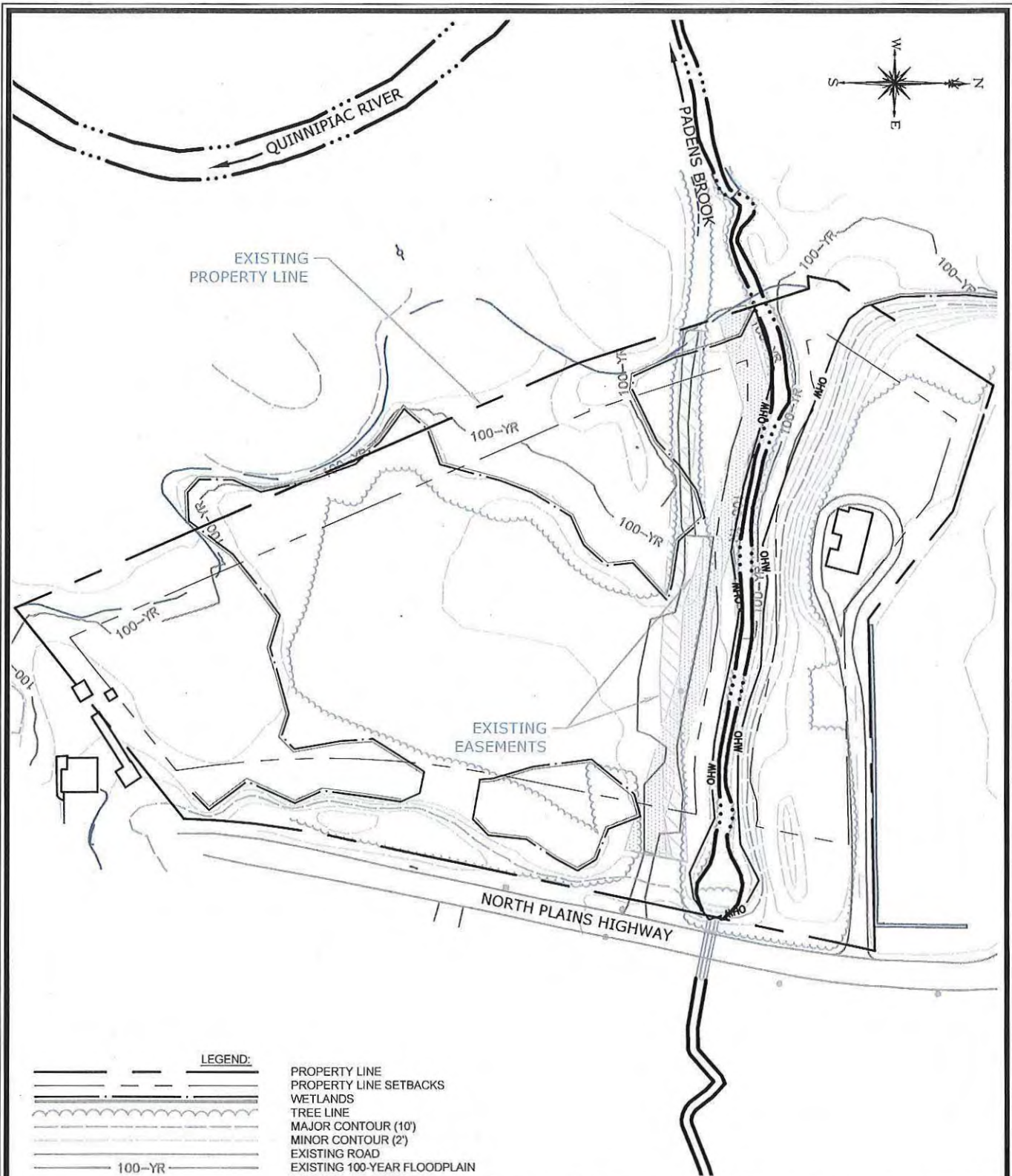
**PADENS BROOK
 BOX CULVERT CROSSING
 59 AND 65 NORTH PLAINS HIGHWAY
 WALLINGFORD, CONNECTICUT**

PROJECT PHASE: REGULATORY PERMITTING REV: ---

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DRM	DRM	MJS	
DRAWING NAME:			
EX-1			

Drawing: W:\DESIGN\1420-10-DEC\CAD\GRAND.DWG Layout TabEX-1

Plotted by: DANKE On this date: Tue, 2015 June 2 - 11:13am



LEGEND:	
	PROPERTY LINE
	PROPERTY LINE SETBACKS
	WETLANDS
	TREE LINE
	MAJOR CONTOUR (10')
	MINOR CONTOUR (2')
	EXISTING ROAD
	EXISTING 100-YEAR FLOODPLAIN

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PREVIOUS EXISTING CONDITIONS

**PADENS BROOK
 BOX CULVERT CROSSING**
 59 AND 65 NORTH PLAINS HIGHWAY
 WALLINGFORD, CONNECTICUT

PROJECT PHASE: REGULATORY PERMITTING REV: ---

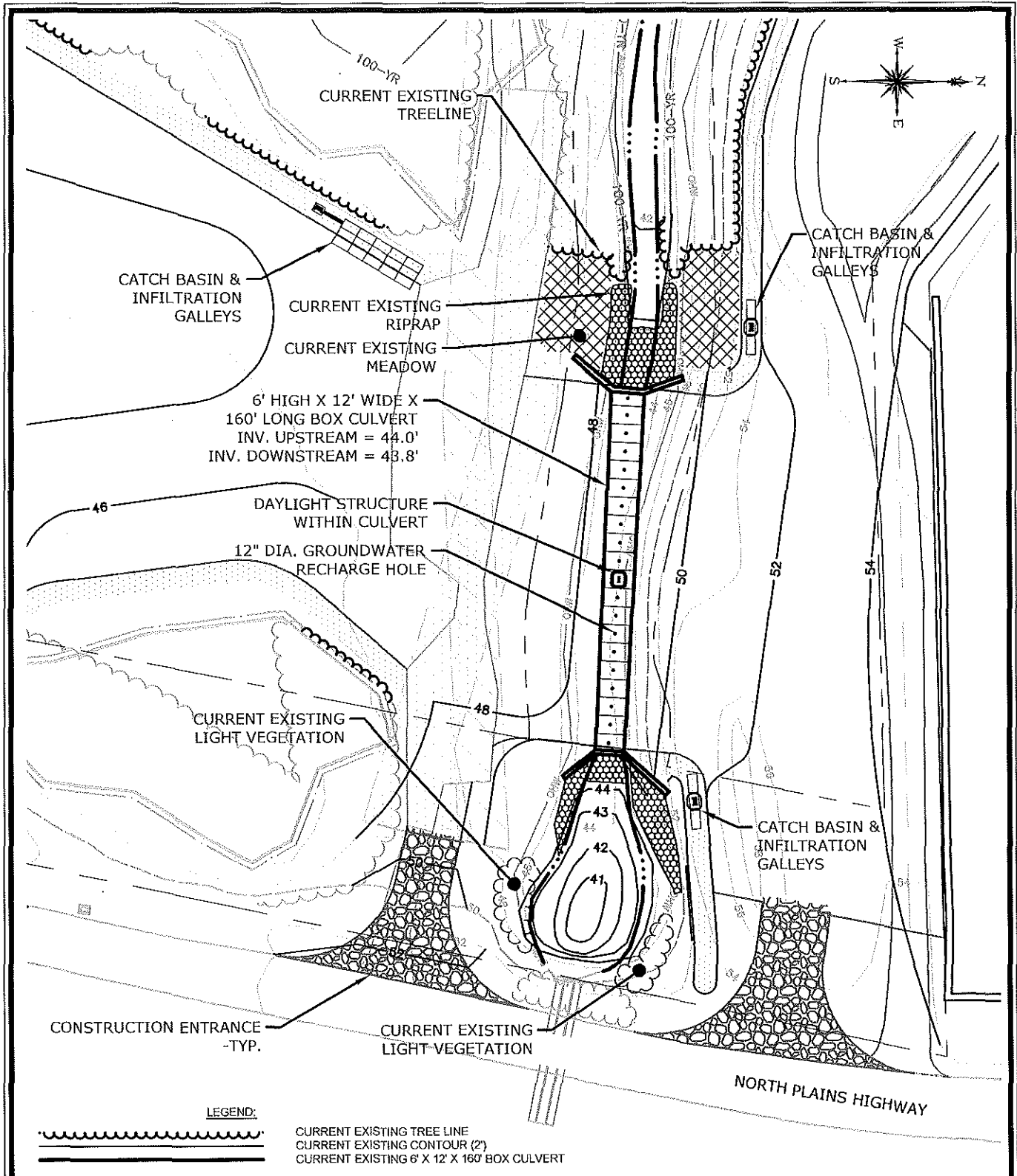
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EX-2			




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Drawing: W:\DESIGN\1420-10-DE\CAD\SMAN.DWG Layout: TabEX-3

Plotted by: DANNE On this date: Tue, 2015 June 2 - 11:13am



LEGEND:
 CURRENT EXISTING TREE LINE
 CURRENT EXISTING CONTOUR (2')
 CURRENT EXISTING 6' X 12' X 160' BOX CULVERT

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CURRENT EXISTING CONDITIONS

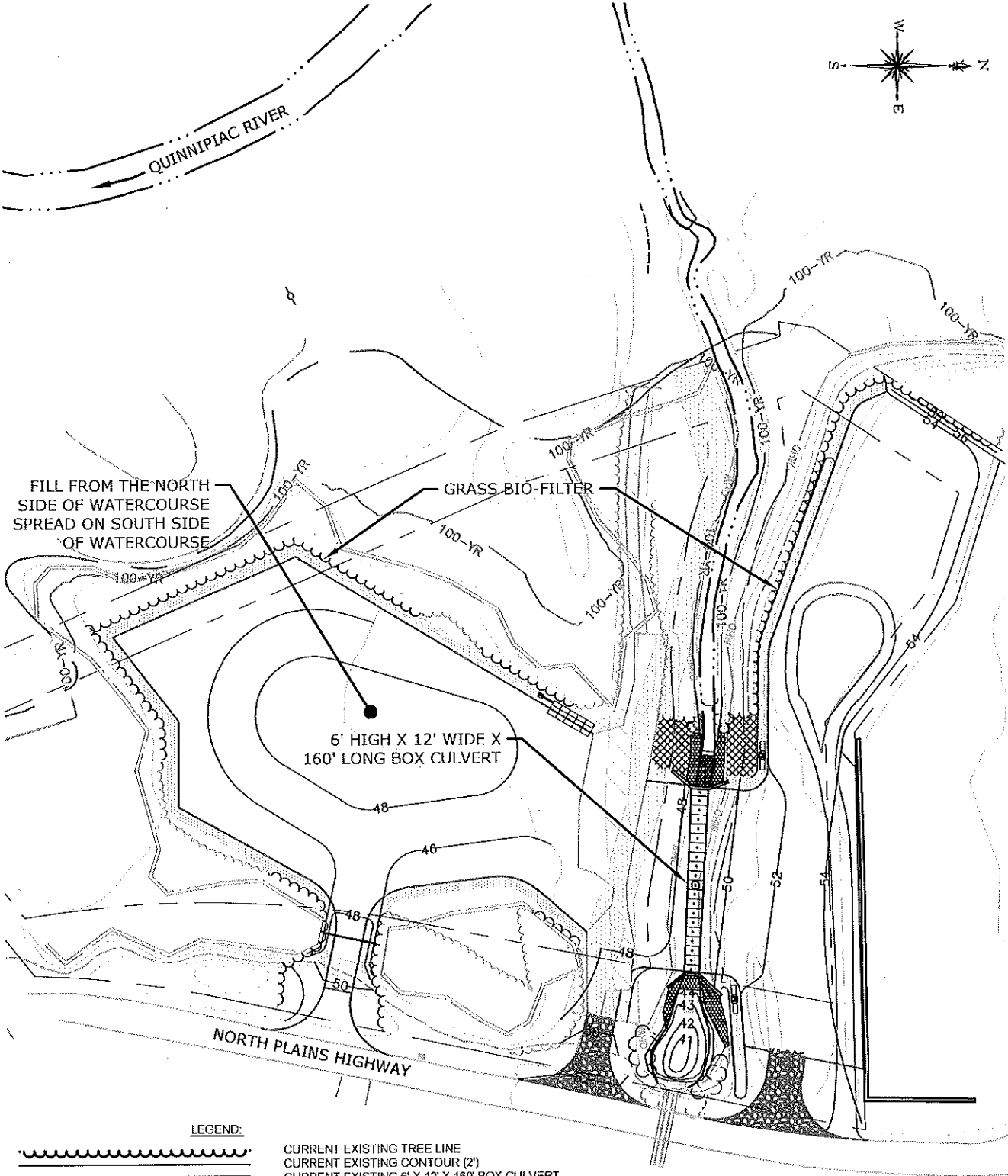
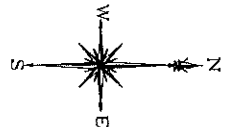
**PADENS BROOK
 BOX CULVERT CROSSING**
 59 AND 65 NORTH PLAINS HIGHWAY
 WALLINGFORD, CONNECTICUT

PROJECT PHASE: REGULATORY PERMITTING

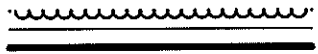
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DRAWING NAME:			

EX-3



LEGEND:



CURRENT EXISTING TREE LINE
 CURRENT EXISTING CONTOUR (2')
 CURRENT EXISTING 6' X 12' X 160' BOX CULVERT

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CURRENT EXISTING CONDITIONS

**PADENS BROOK
 BOX CULVERT CROSSING**

**59 AND 65 NORTH PLAINS HIGHWAY
 WALLINGFORD, CONNECTICUT**

PROJECT PHASE: REGULATORY PERMITTING

REV: ---

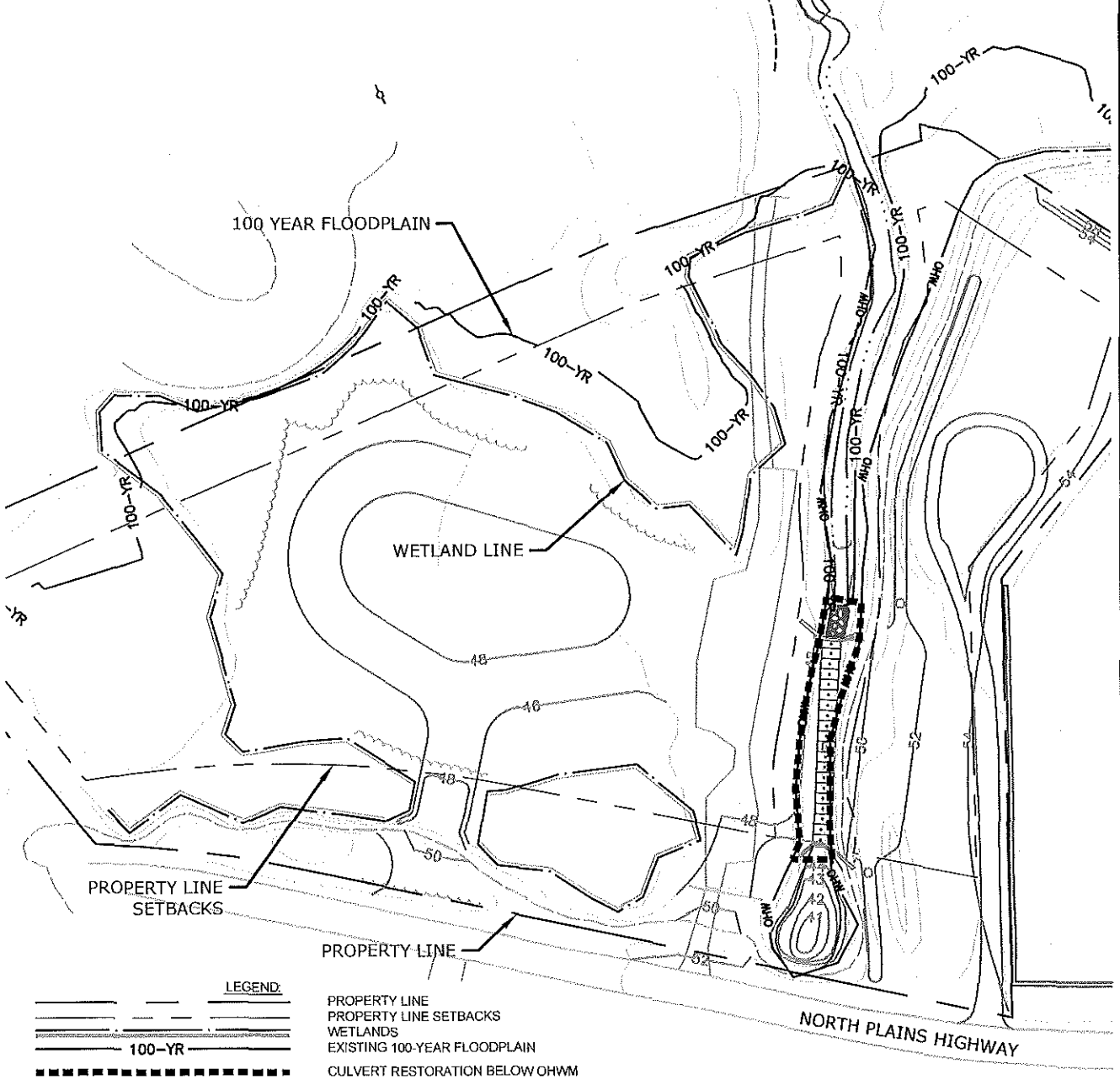
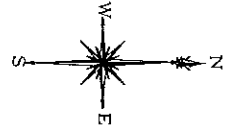
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EX-4			

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Plotted by: DANKE On this date: Tue, 2015 June 2 - 11:15am

REGULATED ACTIVITIES TABLE

TOTAL ACTIVITIES BELOW OHWM:	5,445 ± SQUARE FEET
TOTAL CULVERT RESTORATION BELOW OHWM:	5,445 ± SQUARE FEET
TOTAL WATERCOURSE ALTERED:	231 ± LINEAR FEET
TOTAL WATERCOURSE BANK:	320 ± LINEAR FEET



LEGEND:	
	PROPERTY LINE
	PROPERTY LINE SETBACKS
	WETLANDS
	EXISTING 100-YEAR FLOODPLAIN
	CULVERT RESTORATION BELOW OHWM

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REGULATED AREAS
PADENS BROOK
BOX CULVERT CROSSING
59 AND 65 NORTH PLAINS HIGHWAY
WALLINGFORD, CONNECTICUT

PROJECT PHASE: REGULATORY PERMITTING REV: ---

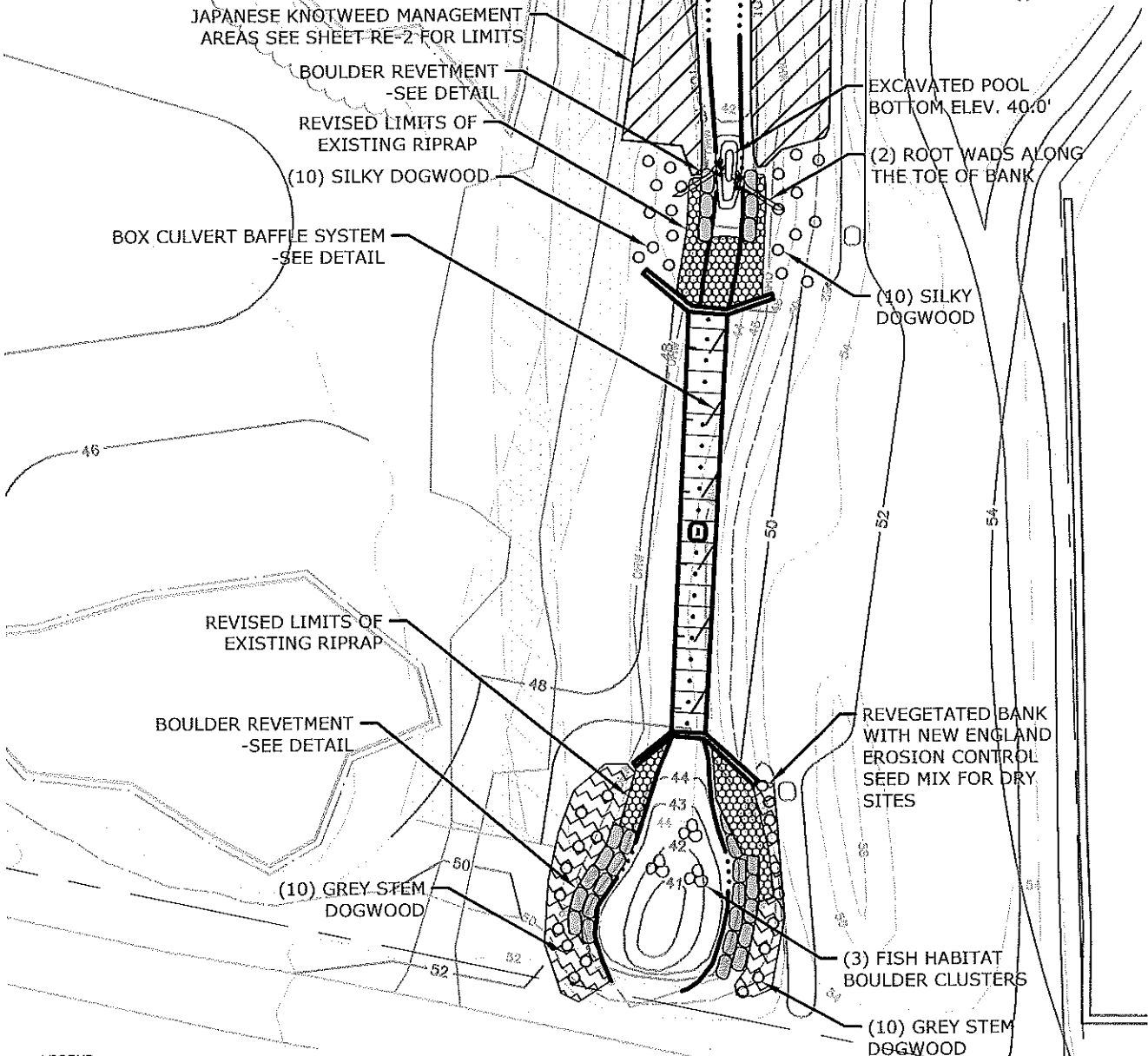
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Printed by: DANIE On this date: Tue, 2015 June 2 - 11:13am

RESTORATION AREAS

TOTAL BANK RESTORATION:	302 ± LINEAR FEET
TOTAL RIPARIAN ZONE RESTORATION:	32,264 ± SQUARE FEET
TOTAL BAFFLE RESTORATION:	1,920 ± SQUARE FEET



LEGEND:

- CONTOUR (1')
- FISH HABITAT BOULDER CLUSTER
- PLANTINGS
- BOULDER REVETMENT
- ROOTWAD
- JAPANESE KNOTWEED MANAGEMENT AREA
- NEW ENGLAND EROSION CONTROL SEED MIX
- REVISED LIMITS OF EXISTING RIPRAP
- EXISTING CULVERT WITH PROPOSED BAFFLE SYSTEM

NOTE: PROPOSED WATERCOURSE RESTORATION AS RECOMMENDED BY CTDEEP FISHERY BIOLOGIST TO HELP MAINTAIN AND/OR INCREASE FISHERY HABITAT.

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RESTORATION PLAN
PADENS BROOK
BOX CULVERT CROSSING
59 AND 65 NORTH PLAINS HIGHWAY
WALLINGFORD, CONNECTICUT

PROJECT PHASE: REGULATORY PERMITTING REV: ---

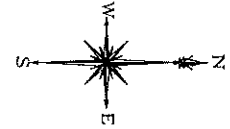
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RE-1			

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Plotted by: DANNE On the date: Tue, 2015 June 2 - 11:36m

SLOPE RESTORATION PLANTINGS

SHRUBS	QTY	COMMON NAME	BOTANICAL NAME	SIZE	COMMENTS
	20	SILKY DOGWOOD	CORNUS AMOMUM	1-2 GALLON	CONTAINER
	20	GREY STEM DOGWOOD	CORNUS RACEMOSA	1-2 GALLON	CONTAINER

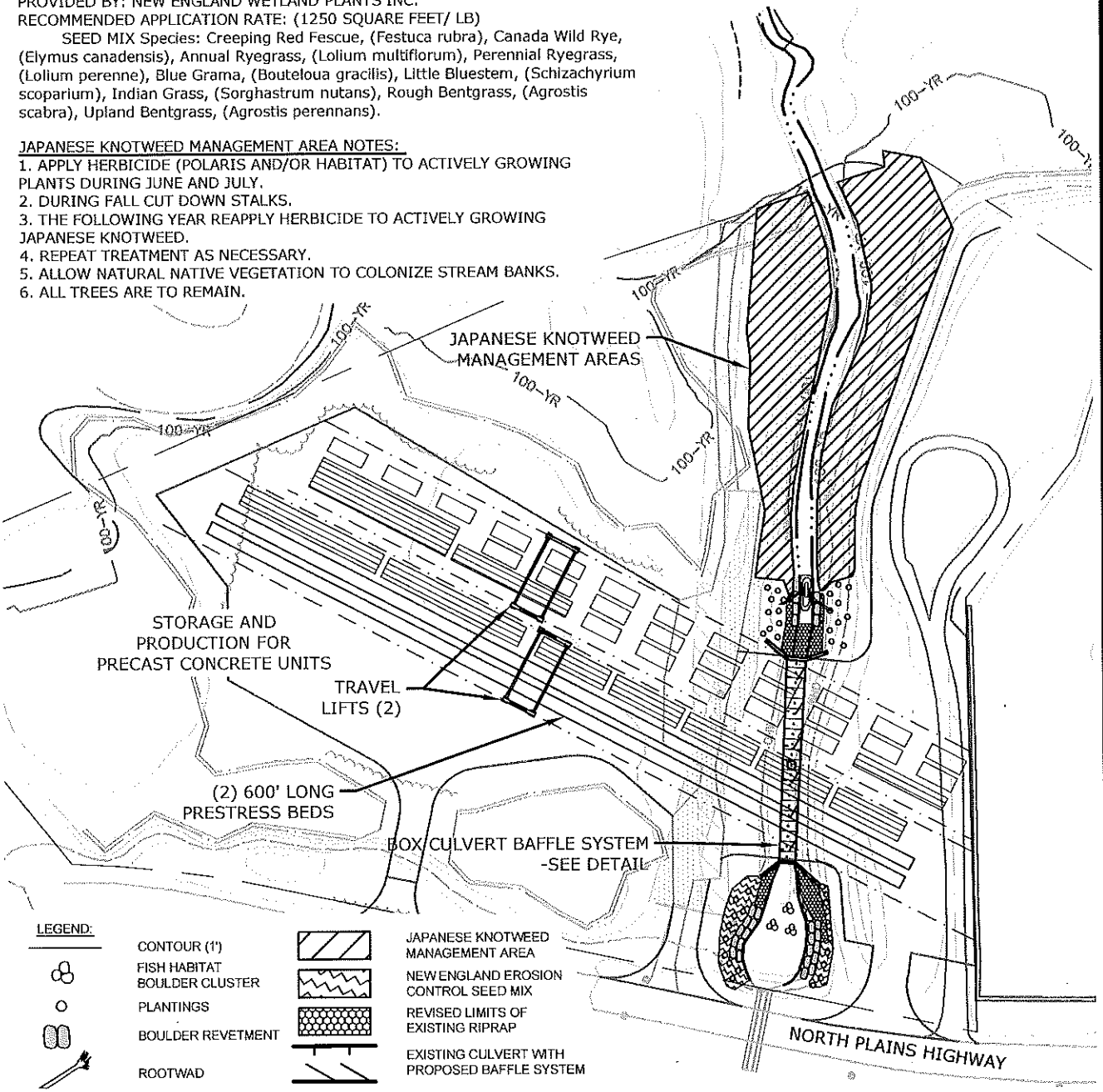


NEW ENGLAND EROSION CONTROL SEED MIX FOR DRY SITES
 PROVIDED BY: NEW ENGLAND WETLAND PLANTS INC.
 RECOMMENDED APPLICATION RATE: (1250 SQUARE FEET/ LB)

SEED MIX Species: Creeping Red Fescue, (*Festuca rubra*), Canada Wild Rye, (*Elymus canadensis*), Annual Ryegrass, (*Lolium multiflorum*), Perennial Ryegrass, (*Lolium perenne*), Blue Grama, (*Bouteloua gracilis*), Little Bluestem, (*Schizachyrium scoparium*), Indian Grass, (*Sorghastrum nutans*), Rough Bentgrass, (*Agrostis scabra*), Upland Bentgrass, (*Agrostis perennans*).

JAPANESE KNOTWEED MANAGEMENT AREA NOTES:

1. APPLY HERBICIDE (POLARIS AND/OR HABITAT) TO ACTIVELY GROWING PLANTS DURING JUNE AND JULY.
2. DURING FALL CUT DOWN STALKS.
3. THE FOLLOWING YEAR REAPPLY HERBICIDE TO ACTIVELY GROWING JAPANESE KNOTWEED.
4. REPEAT TREATMENT AS NECESSARY.
5. ALLOW NATURAL NATIVE VEGETATION TO COLONIZE STREAM BANKS.
6. ALL TREES ARE TO REMAIN.



LEGEND:

- CONTOUR (1')
- FISH HABITAT
- BOULDER CLUSTER
- PLANTINGS
- BOULDER REVETMENT
- ROOTWAD
- JAPANESE KNOTWEED MANAGEMENT AREA
- NEW ENGLAND EROSION CONTROL SEED MIX
- REVISED LIMITS OF EXISTING RIPRAP
- EXISTING CULVERT WITH PROPOSED BAFFLE SYSTEM

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RESTORATION PLAN

**PADENS BROOK
 BOX CULVERT CROSSING**

**59 AND 65 NORTH PLAINS HIGHWAY
 WALLINGFORD, CONNECTICUT**

PROJECT PHASE: REGULATORY PERMITTING

REV: ---

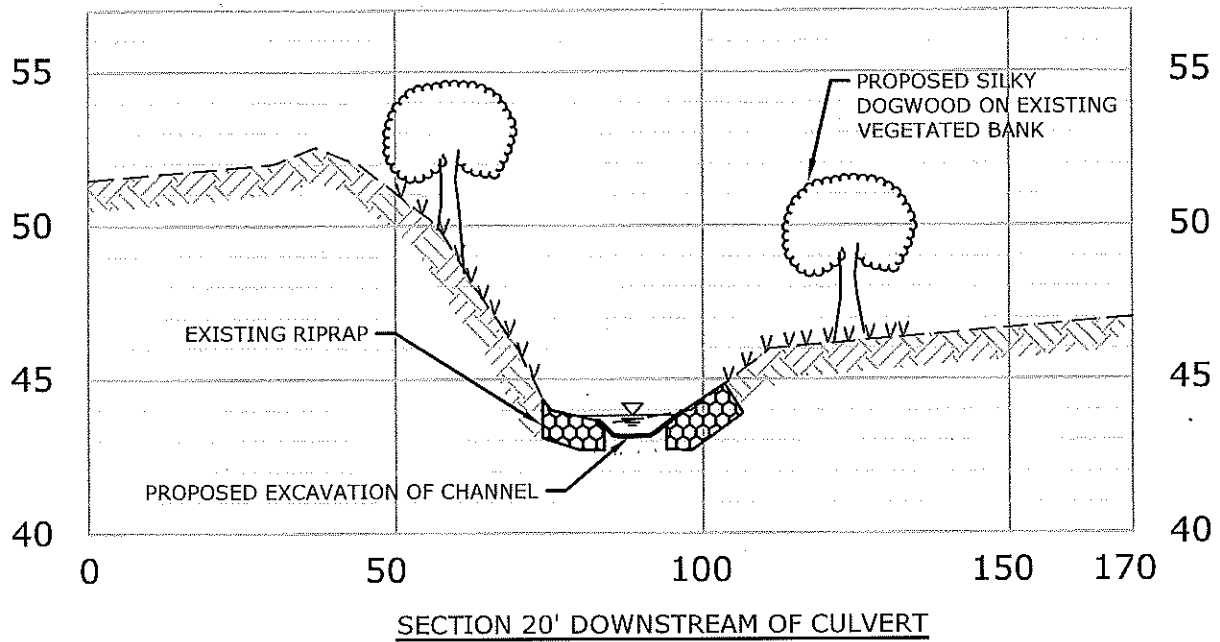
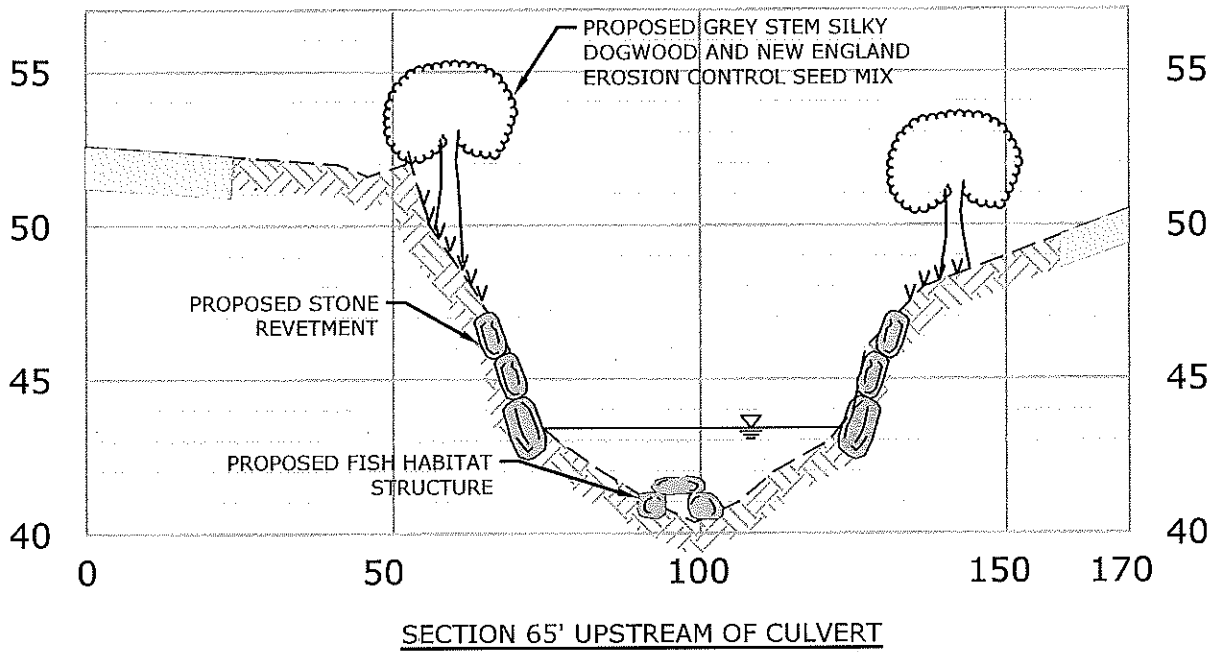
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DESIGNED	DRAWN	CHECKED	
DRM	DRM	MJS	
DRAWING NAME:			

RE-2

Drawing: W:\DESIGN\1420-10-DE\CAD\GAIN.DWG Layout: Table-2

Plotted by: DANNE On this date: Tue, 2015 June 2 - 11:13am

Drawing: W:\DESIGN\1420-10-DE\CAD\CAD\DWG Layout TabCS-1



NOTE: CROSS SECTIONS LOOK UPSTREAM.

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CROSS SECTIONS

**PADENS BROOK
 BOX CULVERT CROSSING**

**59 AND 65 NORTH PLAINS HIGHWAY
 WALLINGFORD, CONNECTICUT**

PROJECT PHASE: REGULATORY PERMITTING

REV: ---

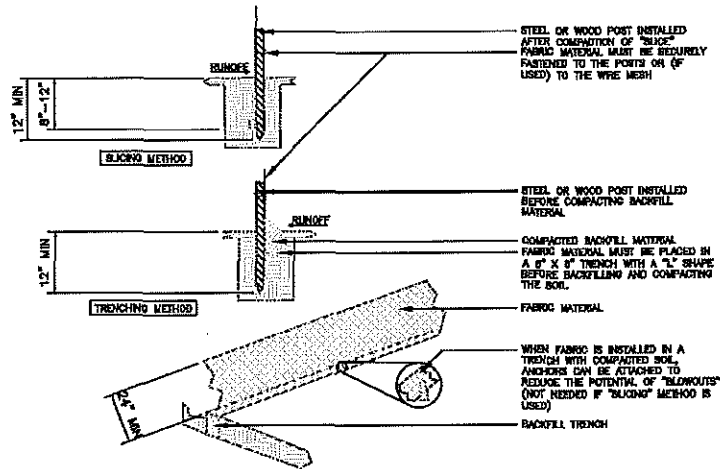
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DESIGNED	DRAWN	CHECKED
DRM	DRM	MJS

DRAWING NAME:

CS-1

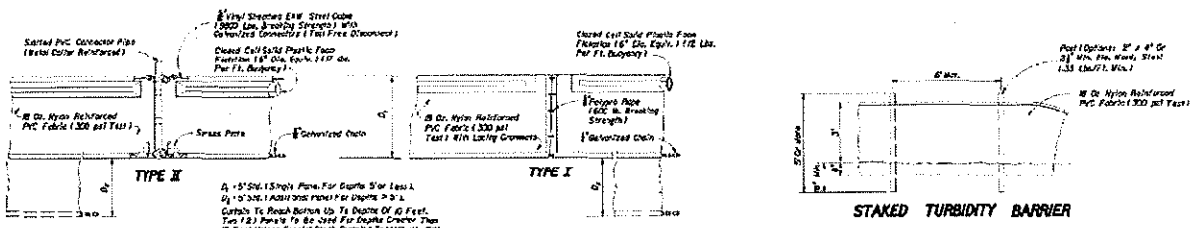
Plotted by: DANNE On the date: Tue, 2015 June 2 - 11:13am

Drawing: W:\DESIGN\1420-10-DC\CAD\DRAWING\Layout_Turbid-1



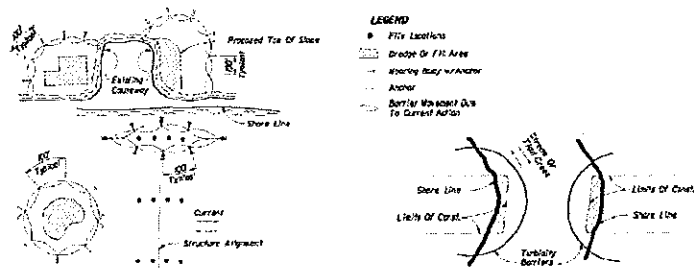
SILT FENCE BARRIER INSTALLATION

NTS



NOTICE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY REFERENCE TO THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

FLOATING TURBIDITY BARRIERS



- NOTES:
1. Turbidity barriers are to be used in all permanent bodies of water regardless of water depth.
 2. Number and spacing of anchors dependent on current velocities.
 3. Deployment of barrier around pile locations may vary as recommended construction methods.
 4. Realigning may require separating barrier during construction operations.
 5. For additional information see Section 04 of the Standard Specifications.

- GENERAL NOTES
1. Floating turbidity barriers are to be used for under the contract and on the Floating Turbidity Barrier, LP.
 2. Staked turbidity barriers are to be used for under the contract with piles for Staked Turbidity Barrier, LP.

TURBIDITY BARRIER APPLICATIONS

DETAIL NOTES:
 1. DETAILS PROVIDED BY JULIANO ASSOCIATES LLC ON THE DRAWING "M:\SUBMITTED\2013\149009-3-0-DWG" DATED 6/24/2014 1:32pm.

TURBIDITY BARRIERS		Last Revision: 00 Sheet No.: 1 of 1 Index no.: 103
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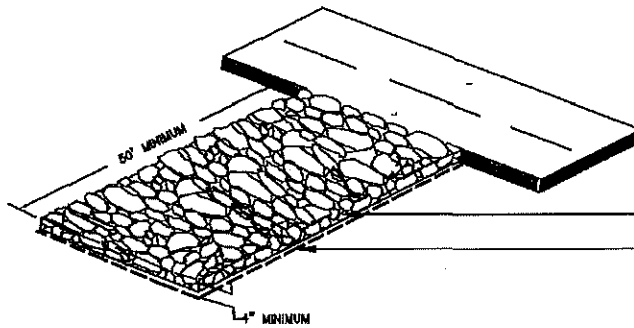
MILONE & MACBROOM®
 99 Realty Drive
 Cheshire, Connecticut 06410
 (203) 271-1773 Fax (203) 272-9733
 www.miloneandmacbroom.com

DETAILS
PADENS BROOK BOX CULVERT CROSSING
 69 AND 65 NORTH PLAINS HIGHWAY
 WALLINGFORD, CONNECTICUT

DATE	MARCH 3, 2015
SCALE	N.T.S.
PROJ. NO.	1420-10
DESIGNED	DRM
DRAWN	DRM
CHECKED	MJS
DRAWING NAME:	
D-1	

PROJECT PHASE: REGULATORY PERMITTING REV: ---

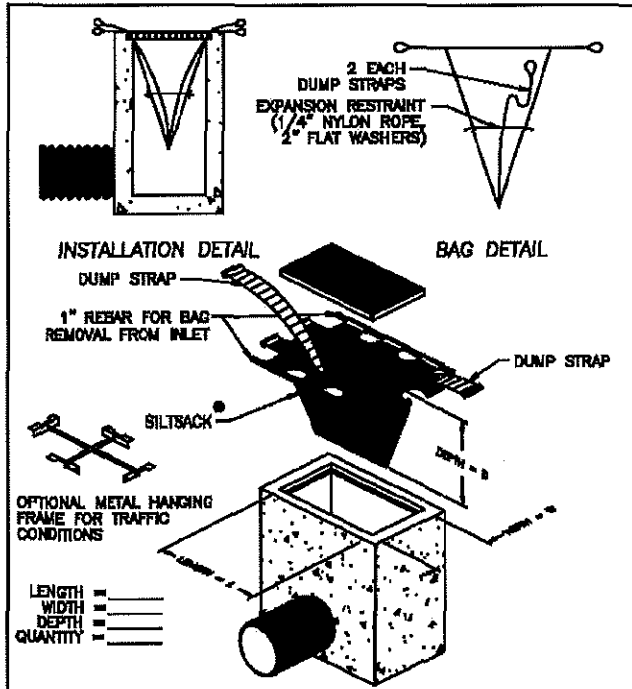
Plotted by: DANNE On the date: Tue, 2015 June 2 11:13am



2" DIA. PROCESSED AGGREGATE AS PER STATE OF CT. DOT.
 FILTER FABRIC

CONSTRUCTION ENTRANCE

NTS



LENGTH = _____
 WIDTH = _____
 DEPTH = _____
 QUANTITY = _____

DETAIL OF INLET SEDIMENT CONTROL DEVICE

PROJECT:	
CITY:	DR. BY:
STATE:	DATE:
	DR. NO.:

DETAIL NOTES:
 1. DETAILS PROVIDED BY JULIANO ASSOCIATES LLC ON THE DRAWING "M:\SUBMITTED\2013\149009-3-0.DWG" DATED 6/24/2014 1:32pm.

SILTSACK®
 SPECIFICATIONS

NOTE: THE SILTSACK® WILL BE MANUFACTURED FROM A TYPICAL POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

REGULAR FLOW SILTSACK®

(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PARAMETER	TEST METHOD	MIN.	MAX.
GRAIN NUMBER RETENTION	ASTM D-200	95%	100%
GRAIN NUMBER ELONGATION	ASTM D-200	20%	30%
PLASTICITY	ASTM D-200	15%	25%
WATER ABSORPTION	ASTM D-200	10%	15%
UV RESISTANCE	ASTM D-200	10%	15%
APPROXIMATE OPENING SIZE	ASTM D-200	40 US SIEVE	40 US SIEVE
FLOW RATE	ASTM D-200	200 GAL/HR/FT	200 GAL/HR/FT
PERMEABILITY	ASTM D-200	15	25

HEAVY FLOW SILTSACK®

(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PARAMETER	TEST METHOD	MIN.	MAX.
GRAIN NUMBER RETENTION	ASTM D-200	95%	100%
GRAIN NUMBER ELONGATION	ASTM D-200	20%	30%
PLASTICITY	ASTM D-200	15%	25%
WATER ABSORPTION	ASTM D-200	10%	15%
UV RESISTANCE	ASTM D-200	10%	15%
APPROXIMATE OPENING SIZE	ASTM D-200	40 US SIEVE	40 US SIEVE
FLOW RATE	ASTM D-200	200 GAL/HR/FT	200 GAL/HR/FT
PERMEABILITY	ASTM D-200	15	25

HEAVY ABSORBENT SILTSACK®

(FOR AREAS WHERE THERE IS A CONCERN FOR OIL-RUN-OFF OR SPILLS)

DEPENDENT ON YOUR PARTICULAR APPLICATION, THE SILTSACK® CAN BE MADE FROM EITHER ONE OF THE ABOVE FABRICS WITH AN OIL-ABSORBENT FILLER OR CAN BE MADE COMPLETELY FROM AN OIL-ABSORBENT POLYPROPYLENE WITH A WELCH FILLER INSERT.

DETAILS

**PADENS BROOK
 BOX CULVERT CROSSING**

59 AND 65 NORTH PLAINS HIGHWAY
 WALLINGFORD, CONNECTICUT

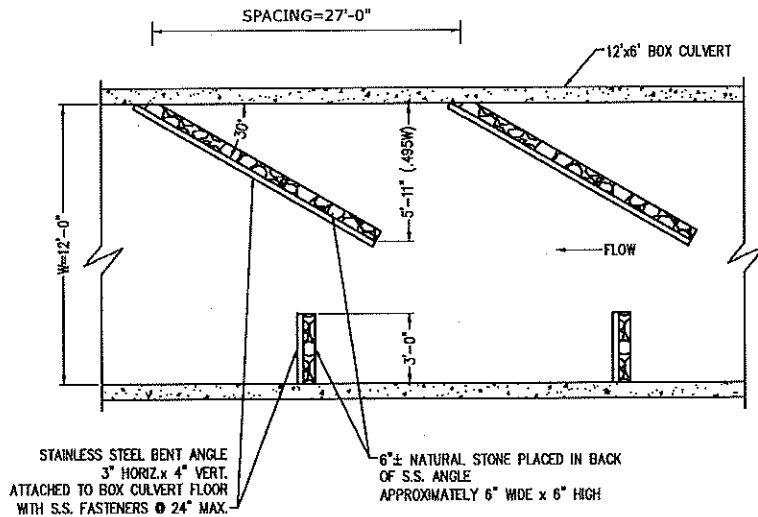
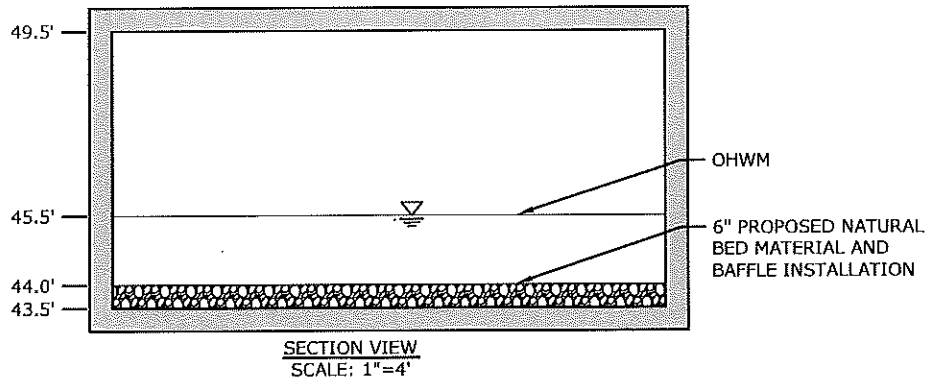
PROJECT PHASE: REGULATORY PERMITTING

REV: ---

DATE	MARCH 3, 2015
SCALE	N.T.S.
PROJ. NO.	1420-10
DESIGNED	CHECKED
DRM	DRM
	MJS

DRAWING NAME:
D-2

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DETAILS

**PADENS BROOK
BOX CULVERT CROSSING**

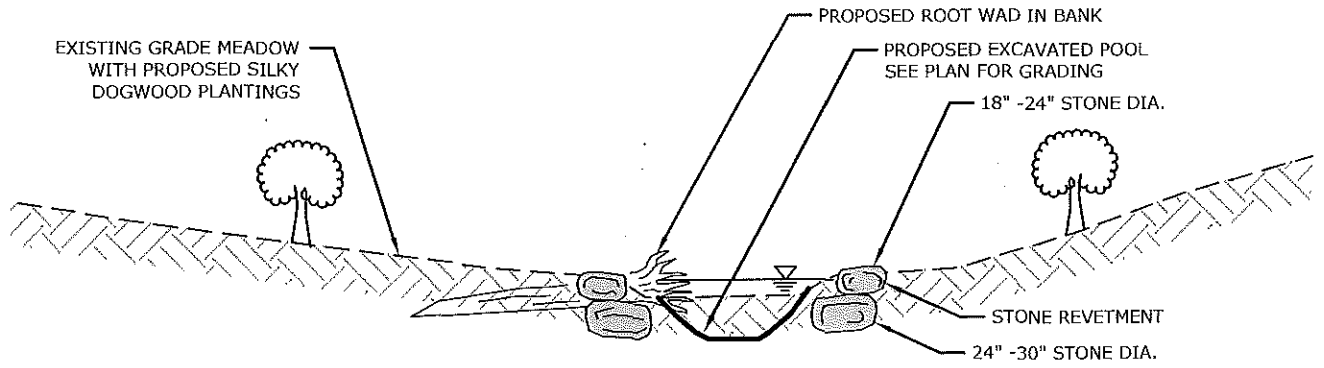
**59 AND 65 NORTH PLAINS HIGHWAY
WALLINGFORD, CONNECTICUT**

PROJECT PHASE: REGULATORY PERMITTING

REV: ---

DATE	MARCH 3, 2015		
SCALE	N.T.S.		
PROJ. NO.	1420-10		
DESIGNED	DRAWN	CHECKED	
DRM	DRM	MJS	
DRAWING NAME:			

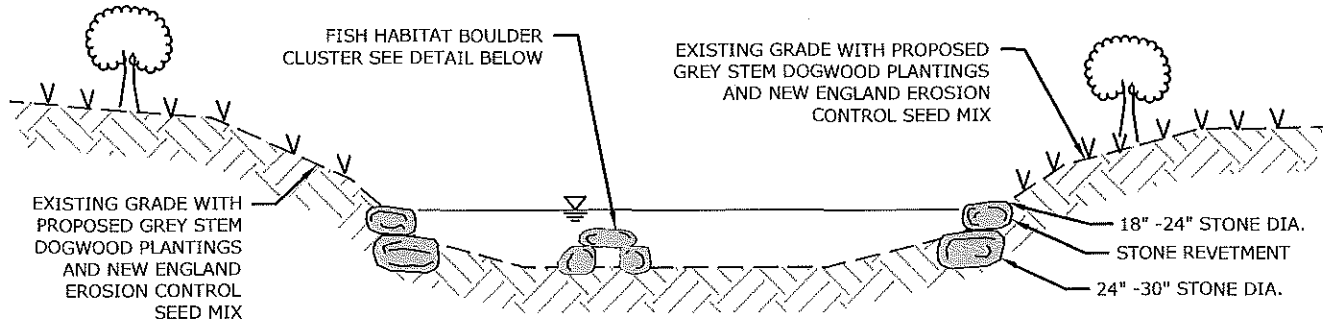
D-3



BOULDER REVETMENT -TYPICAL DOWNSTREAM SECTION

NOT TO SCALE

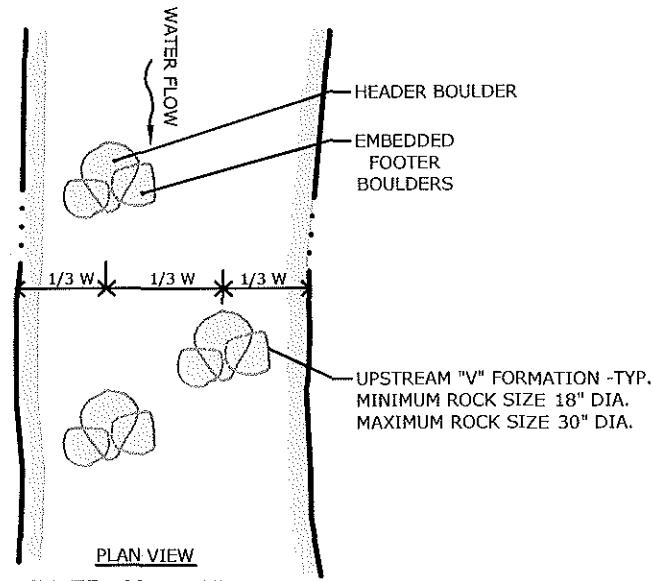
- NOTES:**
1. EMBED STONE A MINIMUM OF 1 FOOT INTO THE STREAM BANK TO KEY INTO THE BANK.
 2. ROOT WAD TO BE INSTALLED IN BANK SUCH THAT IT IS HALF SUBMERGED UNDER NORMAL FLOW.



BOULDER REVETMENT -TYPICAL UPSTREAM SECTION

NOT TO SCALE

- NOTES:**
1. USE 3 BOULDERS PER FISH HABITAT BOULDER CLUSTER.
 2. PLACE BOULDERS IN THE MIDDLE THIRD OF THE STREAM WITHIN DEEPEST PORTION OF CHANNEL.
 3. POSITION BOULDER GROUPS IN A UPSTREAM "V" FORMATION.
 4. INDIVIDUAL BOULDERS PLACED IN THE STREAM SHOULD BE 18" TO 30" IN DIAMETER.
 5. POSITION BOULDERS WITH THEIR LONG AXIS PARALLEL TO THE STREAM FLOW.
 6. INSTALL HEADER BOULDERS AT A LOW PROFILE SUCH THAT THEY ARE PARTIALLY SUBMERGED DURING NORMAL LOW FLOW. INSTALL SUCH THAT 1/3 OF ROCK DIAMETER IS BURIED IN STREAM CHANNEL.
 7. FINISHED ELEVATION OF THE BOULDERS WILL BE DETERMINED IN THE FIELD.



FISH HABITAT BOULDER CLUSTER

NOT TO SCALE

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DETAILS
PADENS BROOK
BOX CULVERT CROSSING
 59 AND 65 NORTH PLAINS HIGHWAY
 WALLINGFORD, CONNECTICUT

DATE	MARCH 3, 2016		
SCALE	N.T.S.		
PROJ. NO.	1420-10		
DESIGNED	DRAWN	CHECKED	
DRM	DRM	MJS	
DRAWING NAME:			

D-4

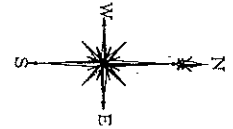
PROJECT PHASE: REGULATORY PERMITTING REV: ---

Drawing: W:\DESIGN\1420-10-DE\CAD\GAINING.DWG Layout: TabD-4

Plotted by: DANKE On this date: Tue, 2015 Jun 2 11:13am

SLOPE RESTORATION PLANTINGS

SHRUBS	QTY	COMMON NAME	BOTANICAL NAME	SIZE	COMMENTS
	20	SILKY DOGWOOD	CORNUS AMOMUM	1-2 GALLON	CONTAINER
	20	GREY STEM DOGWOOD	CORNUS RACEMOSA	1-2 GALLON	CONTAINER

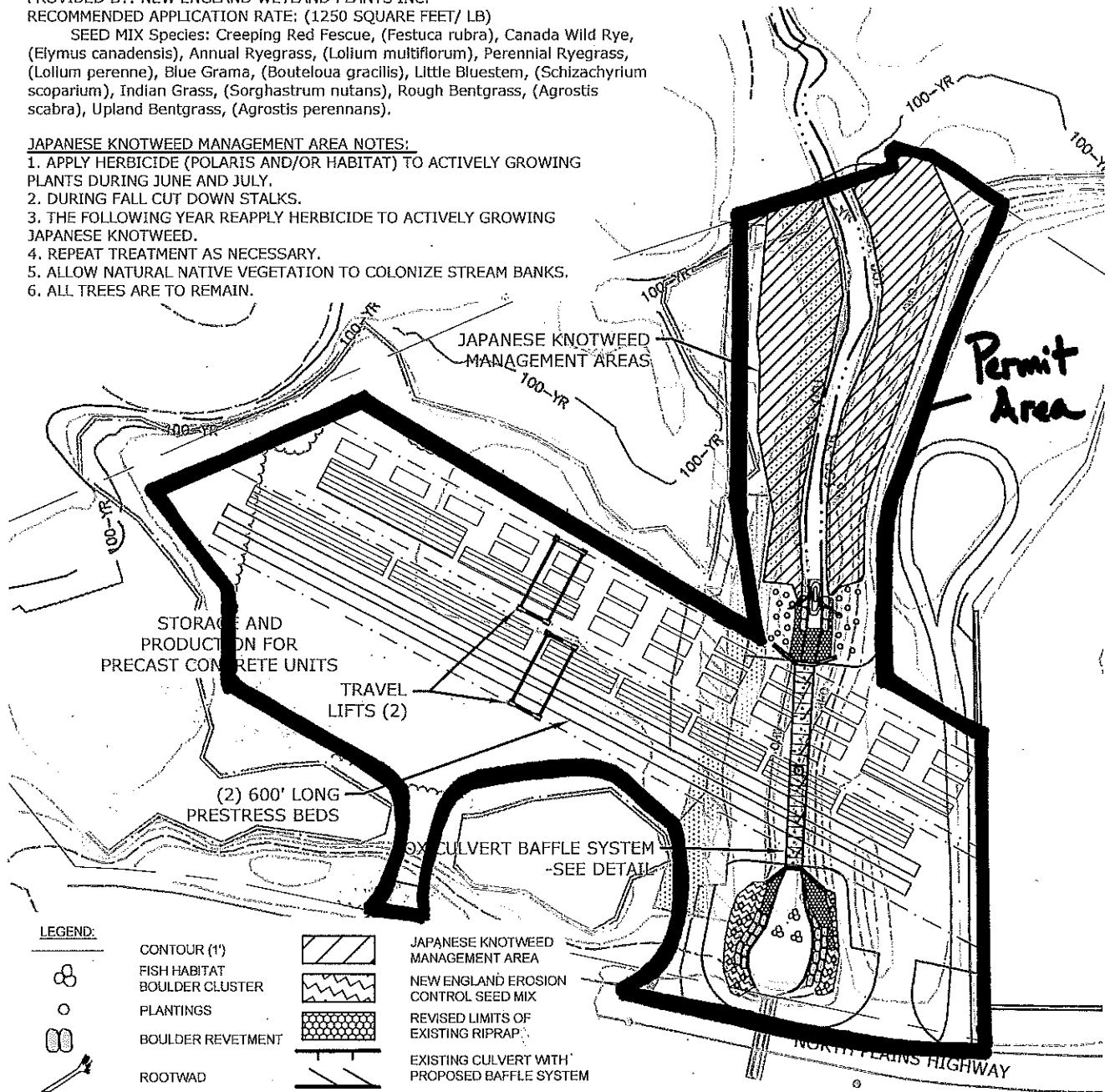


NEW ENGLAND EROSION CONTROL SEED MIX FOR DRY SITES
 PROVIDED BY: NEW ENGLAND WETLAND PLANTS INC.
 RECOMMENDED APPLICATION RATE: (1250 SQUARE FEET/ LB)

SEED MIX Species: Creeping Red Fescue, (*Festuca rubra*), Canada Wild Rye, (*Elymus canadensis*), Annual Ryegrass, (*Lolium multiflorum*), Perennial Ryegrass, (*Lolium perenne*), Blue Grama, (*Bouteloua gracilis*), Little Bluestem, (*Schizachyrium scoparium*), Indian Grass, (*Sorghastrum nutans*), Rough Bentgrass, (*Agrostis scabra*), Upland Bentgrass, (*Agrostis perennans*).

JAPANESE KNOTWEED MANAGEMENT AREA NOTES:

1. APPLY HERBICIDE (POLARIS AND/OR HABITAT) TO ACTIVELY GROWING PLANTS DURING JUNE AND JULY.
2. DURING FALL CUT DOWN STALKS.
3. THE FOLLOWING YEAR REAPPLY HERBICIDE TO ACTIVELY GROWING JAPANESE KNOTWEED.
4. REPEAT TREATMENT AS NECESSARY.
5. ALLOW NATURAL NATIVE VEGETATION TO COLONIZE STREAM BANKS.
6. ALL TREES ARE TO REMAIN.



LEGEND:

- CONTOUR (1')
- FISH HABITAT
- BOULDER CLUSTER
- PLANTINGS
- BOULDER REVETMENT
- ROOTWAD
- JAPANESE KNOTWEED MANAGEMENT AREA
- NEW ENGLAND EROSION CONTROL SEED MIX
- REVISED LIMITS OF EXISTING RIPRAP
- EXISTING CULVERT WITH PROPOSED BAFFLE SYSTEM

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RESTORATION PLAN
PADENS BROOK
BOX CULVERT CROSSING
 59 AND 65 NORTH PLAINS HIGHWAY
 WALLINGFORD, CONNECTICUT

PROJECT PHASE: REGULATORY PERMITTING

REV: ---

DATE	MARCH 3, 2015		
SCALE	1"=120'		
PROJ. NO.	1420-10		
DESIGNED	DRM	DRAWN	CHECKED
			MJS
DRAWING NAME:			

RE-2