



TOWN OF EXETER, NEW HAMPSHIRE

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 • FAX 772-4709

www.exeternh.gov

PUBLIC NOTICE EXETER CONSERVATION COMMISSION

The Exeter Conservation Commission will meet in the Wheelwright Room of the Town Office Building, Exeter on **Tuesday, November 18th, 2014 at 7:00 P.M.**

Call to Order:

1. Introduction of Members Present
2. Public Comment

Action Items

1. Minimum Impact Expedited Wetland Permit for the construction of an artificial turf field in the location of the existing athletic fields for Phillips Exeter Academy at Gilman Lane, Exeter (Tax Map 71, Lot 119). (*Anthony P. Panciocco*)
2. Town of Exeter Linden and Court Street Culvert Replacement (*Britt Audette, CMA Engineers*).
3. Exeter Snowhounds Request for Annual Use of Snowmobile Trail. Secondary request for new trail re-route to avoid sharp turn back onto the powerline within the Forest Ridge Conservation Area (*See Memo*).

Regular Business:

1. Elliott Clean-up
2. Committee Reports
 - a. Boundary Monitoring
 - b. Trails
 - c. Outreach
3. Approval of Minutes: October 14th, 2014
4. Treasurers Report
5. Other Business
6. Next Meeting: Date and Agenda Items

Work Session

7. Raynes Management Plan Update (*Don Briselden*)
8. Forest Management Plan (*Don Briselden*)
9. Trail/Bridges Specs (*Pete Richardson*)

Jay Gregoire, Chair

Exeter Conservation Commission

Posted November 14th, 2014: Exeter Town Office, Exeter Public Library, and Town Departments.



Phillips Exeter Academy

**Phillips Exeter Synthetic Field 2
Exeter, New Hampshire**

Wetland Permit Application

**For The State of New Hampshire
Department of Environmental Services
Land Resources Management
Wetlands Bureau**

October, 2014

SMRT Project No. 14075

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Attachment #1

Wetland Permit Application



THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENVIRONMENTAL SERVICES
LAND RESOURCES MANAGEMENT
WETLANDS BUREAU

29 Hazen Drive, PO Box 95, Concord, NH 03302-0095
Phone: (603) 271-2147 Fax: (603) 271-6588
<http://des.nh.gov/organization/divisions/water/wetlands>



PERMIT APPLICATION

<i>Administrative Use Only</i>	<i>Administrative Use Only</i>	<i>Administrative Use Only</i>	File No.:
			Check No.:
			Amount:
			Initials:

1. REVIEW TIME:
Indicate your Review Time below. Refer to Guidance Document A for instructions.

Standard Review (Minimum, Minor or Major Impact) Expedited Review (Minimum Impact)

2. PROJECT LOCATION:
Separate applications must be filed with each municipality that jurisdictional impacts will occur in.

ADDRESS: Gilman Lane		TOWN/CITY: Exeter	
TAX MAP: 71	BLOCK:	LOT: 119	UNIT:
USGS TOPO MAP WATERBODY NAME:	<input checked="" type="checkbox"/> NA	STREAM WATERSHED SIZE:	<input checked="" type="checkbox"/> NA
LOCATION COORDINATES (If known): 42°58'34.84"N, 70°56'22.35"W Plane		<input checked="" type="checkbox"/> Latitude/Longitude	<input type="checkbox"/> UTM <input type="checkbox"/> State

3. PROJECT DESCRIPTION:
Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

The proposed project is the construction of an artificial turf field located over an existing grass field. Wetland impacts associated with this project are a result of the grading for a wet pond and its outlet.

4. RELATED PERMITS, ENFORCEMENT, EMERGENCY AUTHORIZATION, SHORELAND, ALTERATION OF TERRAIN, ETC...

Alteration of Terrain

5. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:
See the Instructions & Required Attachments document for instructions to complete a & b below.

a. Natural Heritage Bureau File ID: NHB 14 - 2846

b. Designated River the project is in ¼ miles of: Exeter River; and
date a copy of the application was sent to Local River Advisory Committee: Month: 11 Day: 20 Year: 2014

NA

6. APPLICANT INFORMATION (Desired permit holder)

LAST NAME, FIRST NAME, M.I.: Phillips Exeter Academy c/o Roger Wakeman

TRUST / COMPANY NAME:

MAILING ADDRESS: 20 Main Street

TOWN/CITY: Exeter

STATE: NH

ZIP CODE: 03833

EMAIL or FAX: rwakeman@exeter.edu

PHONE: 603-777-3292

ELECTRONIC COMMUNICATION: By initialing here: _____, I hereby authorize DES to communicate all matters relative to this application electronically

7. PROPERTY OWNER INFORMATION (If different than applicant)

LAST NAME, FIRST NAME, M.I.: Phillips Exeter Academy c/o Roger Wakeman

TRUST / COMPANY NAME: Phillips Exeter Academy

MAILING ADDRESS: 20 Main Street

TOWN/CITY: Exeter

STATE: NH

ZIP CODE: 03833

EMAIL or FAX: rwakeman@exeter.edu

PHONE: 603-777-3292

ELECTRONIC COMMUNICATION: By initialing here: _____, I hereby authorize DES to communicate all matters relative to this application electronically

8. AUTHORIZED AGENT INFORMATION

LAST NAME, FIRST NAME, M.I.: Kenneth Costello

COMPANY NAME: SMRT, INC.

MAILING ADDRESS: 1 Dundee Park, Suite 4

TOWN/CITY: Andover

STATE: MA

ZIP CODE: 01810

EMAIL or FAX: kcostello@smrtinc.com


PHONE: 207-321-3968

ELECTRONIC COMMUNICATION: By initialing here **KDC**, I hereby authorize DES to communicate all matters relative to this application electronically**9. PROPERTY OWNER SIGNATURE:**

See the Instructions & Required Attachments document for clarification of the below statements

By signing the application, I am certifying that:

1. I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.
2. I have reviewed and submitted information & attachments outlined in the Instructions and Required Attachment document.
3. All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900.
4. I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type.
5. I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative.
6. Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47.
7. I have submitted a copy of the application materials to the NH State Historic Preservation Officer.
8. I authorize DES and the municipal conservation commission to inspect the site of the proposed project.
9. I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate.
10. I understand that the willful submission of falsified or misrepresented information to the New Hampshire Department of Environmental Services is a criminal act, which may result in legal action.
11. I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining.
12. The mailing addresses I have provided are up to date and appropriate for receipt of DES correspondence. DES will not forward returned mail.


 Property Owner Signature	ROGER F. WAKEMAN CHIEF OF PLANNING & FACILITIES PHILLIPS EXETER ACADEMY <small>Print name legibly</small>	10/21/14 Date
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MUNICIPAL SIGNATURES

10. CONSERVATION COMMISSION SIGNATURE

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.


 Authorized Commission Signature	Print name legibly	Date
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DIRECTIONS FOR CONSERVATION COMMISSION

1. Expedited review **ONLY** requires that the conservation commission's signature is obtained in the space above.
2. The Conservation Commission signature should be obtained **prior** to the submittal of the original application and four copies to the town/city clerk for mailing to the DES.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will reviewed in the standard review time frame.

11. TOWN / CITY CLERK SIGNATURE

As required by Chapter 482-A:3 (amended 2014), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

 Town/City Clerk Signature	Print name legibly	Town/City	Date
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DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3, I

1. For applications where "Expedited Review" is checked on page 1, sign and accept the applications **only** if the Conservation Commission signature has been received;
2. **IMMEDIATELY** sign the original application form and four copies in the signature space provided above;
3. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
4. **IMMEDIATELY** distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board; and
5. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:

1. Submit the original permit application form bearing the signature of the Town/ City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery.

12. IMPACT AREA:

For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact

Permanent: impacts that will remain after the project is complete.

Temporary: impacts not intended to remain (and will be restored to pre-construction conditions) after the project is complete.

After-the-fact (ATF): work completed prior to receipt of this application by DES. Check box to indicate ATF.

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.	TEMPORARY Sq. Ft. / Lin. Ft.
Forested wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Scrub-shrub wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Emergent wetland	393 s.f <input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Wet meadow	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Intermittent stream	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Perennial Stream / River	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Lake / Pond	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Intermittent stream	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Perennial stream / River	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Lake / Pond	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Tidal water	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Salt marsh	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Sand dune	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland buffer	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Undeveloped Tidal Buffer Zone (TBZ)	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Previously-developed upland in TBZ	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - Lake / Pond	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - River	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - Tidal Water	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
TOTAL	393 /	/

13. APPLICATION FEE: See the Instructions & Required Attachments document for further instruction

Minimum Impact Fee: Flat fee of \$ 200

Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking) _____ sq. ft. X \$0.20 = \$ _____

Temporary (seasonal) docking structure: _____ sq. ft. X \$1.00 = \$ _____

Permanent docking structure: _____ sq. ft. X \$2.00 = \$ _____

Projects proposing shoreline structures (including docks) add \$200 = \$ _____

Total = \$ _____

The Application Fee is the above calculated Total or \$200, whichever is greater = \$ 200.00



Attachment #2

Need and Minimization & Avoidance



Statement of Avoidance and Minimization

Project Background

The proposed project consists of the construction of a new artificial turf field at the location of an existing natural grass field on the Phillips Exeter Academy Campus in Exeter New Hampshire. The project site is located on the east side of Gilman Lane, east of the existing Phelps Stadium and will abut the eastern side of the existing stadium grandstands.

The proposed project will be located entirely within an existing grass field area. The existing grass field area/ (proposed site) generally drains in a north/northwesterly and south/south westerly direction around the existing Phelps Stadium. Wetland areas associated with drainage ways have been identified on the northern and southern sides of the existing grass field areas. These drainage ways convey runoff westerly across the property to the Exeter River. Approximately 393 square feet of wetland impacts are anticipated as a result of the construction of a pocket wet pond and the field associated outlet.

Wetland delineation was performed for the project site by Gove Environmental Service, Inc. A copy of the Wetland Delineation Report is attached with this submission.

The proposed project will be reviewed by NHDES under an Alteration of Terrain Permit application for land disturbance in excess of 100,000 square feet. As part of the requirements of the permit application a pocket wet pond will be constructed to provide water quality and quantity control for new turf field. The existing flat terrain of the project site dictates that a wet pond with a shallow outlet be constructed. The wet pond has been designed with a concrete weir panel and rip rap outlet which will discharge to the existing drainage way located to the north of the proposed field. This drainage way has been identified as a wetland in the Gove Environmental Services Wetland Delineation Report.

Avoidance and Minimization

The two areas of impact associated with the project are related to the pond's rip rap outlet and the slope grading associated with the pond's berm construction. In order to outlet the proposed pond, the lowest elevation point in the vicinity must be utilized. The proposed pond outlet is a concrete weir panel with a protected riprap outlet. We have identified a location within the drainage way/wetland to the north where the grade change provides sufficient positive drainage from the pond's outlet. The wetland impact associated with the new outlet equals approximately 50 square feet and is identified as wetland impact area #1. The impact is a result of the riprap protection from the outlet, which is required to protect the wetland resource from erosive outflow velocities.

The proposed pond has been graded to avoid the wetland limits to a greatest extent practical. A small wetland finger (which is currently mowed lawn) extends approximately 50 feet southerly from the drainage way. This wetland area is currently lawn and approximately 343 square feet of impacts are associated with the grading and construction of the pond's berm. This area has been identified as wetland impact area #2. The pond berm has been designed and graded to meet the 3:1 slope requirements as defined in the New Hampshire Stormwater Manual.



The pond has been sited to allow for positive drainage to the outlet as well as minimizing wetland impacts and preserving as much of the existing grass playing fields as possible.

As part of the project development, an option of placing a pond on the southern side of the proposed field area was evaluated. In this area, there is approximately 300' of existing grass field that would require crossing, prior to reaching an outlet in the southern wetland/drainage way. Based on the relatively flat nature of the existing topography it was not possible to provide a positive outlet from a pond to the drainage way.

As indicated by the existing site topography the grade climbs to the east of the proposed field area. As such, placement of the pond in this area is not feasible due to the inability to provide a positive outlet.

The proposed pond has been designed to meet the requirements of the New Hampshire Stormwater Manual, Volume 2 Post-Construction Best Management Practices, December 2008. Additionally, the pond has been situated to allow for positive drainage into and out of the pond while at the same time minimizing the impacts to the wetland resource.



Attachment #3

NHB Review



NEW HAMPSHIRE NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

To: KENNETH COSTELLO, SMRT INC
1 DUNDEE PARK
SUITE 4
ANDOVER, MA 01810

From: NH Natural Heritage Bureau

Date: 8/7/2014 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau of request submitted 7/31/2014

NHB File ID: NHB14-2846

Applicant: Ron Johnson

Location: Exeter
Tax Maps: Map 71, Lot 119

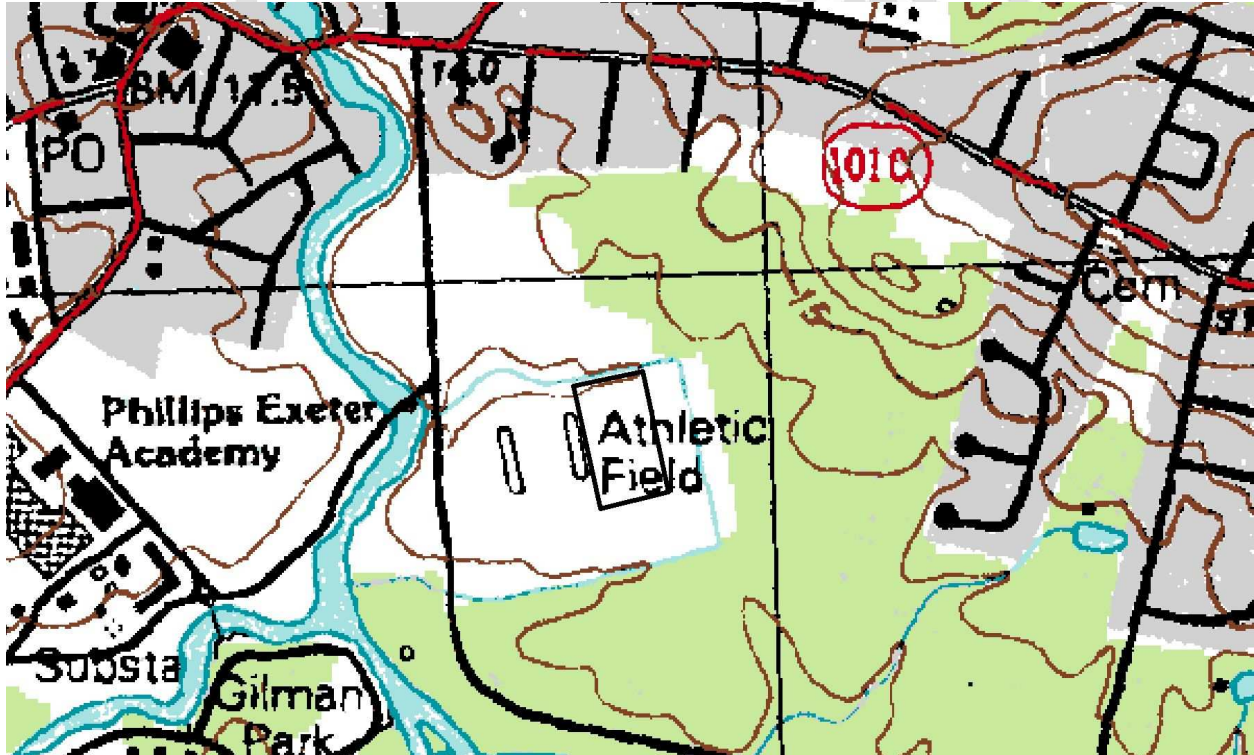
Project Description: Convert existing natural grass athletic field to synthetic athletic field.

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 7/31/2014, and cannot be used for any other project.



MAP OF PROJECT BOUNDARIES FOR: NHB14-2846





Attachment #4

NH PGP Requirements



**US Army Corps
of Engineers**®
New England District

**New Hampshire Programmatic General Permit (PGP)
Appendix B - Corps Secondary Impacts Checklist
(for inland wetland/waterway fill projects in New Hampshire)**

1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to “work” include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See PGP, GC 5, regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*	X	
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?		X
2.2 Are there proposed impacts to SAS, shellfish beds, special wetlands and vernal pools (see PGP, GC 26 and Appendix A)? Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) website, www.nhnaturalheritage.org , specifically the book Natural Community Systems of New Hampshire .		X
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	n/a	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		X
2.5 The overall project site is more than 40 acres.(428 ac. parcel, 4.82 ac. of project disturbance)	X	
2.6 What is the size of the existing impervious surface area?	6.12 ac	
2.7 What is the size of the proposed impervious surface area?	0.523 ac	
2.8 What is the % of the impervious area (new and existing) to the overall project site? (428 ac.)	1.5 %	
3. Wildlife	Yes	No
3.1 Has the NHB determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require a NHB determination.)		X
3.2 Would work occur in any area identified as either “Highest Ranked Habitat in N.H.” or “Highest Ranked Habitat in Ecological Region”? (These areas are colored magenta and green, respectively, on NH Fish and Game’s map, “2010 Highest Ranked Wildlife Habitat by Ecological Condition.”) Map information can be found at: <ul style="list-style-type: none"> • PDF: www.wildlife.state.nh.us/Wildlife/Plan/highest_ranking_habitat.htm. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html. 		X

3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the PGP, GC 21?	n/a	
4. <u>Flooding/Floodplain Values</u>	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?	X	
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		X
5. <u>Historic/Archaeological Resources</u>		
For a minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) shall be sent to the NH Division of Historical Resources as required on Page 5 of the PGP**	n/a	

*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.

** If project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law..



Attachment #5

Designated River Check

Wetland Permit Application
Phillips Exeter Synthetic Field



Designated River Check

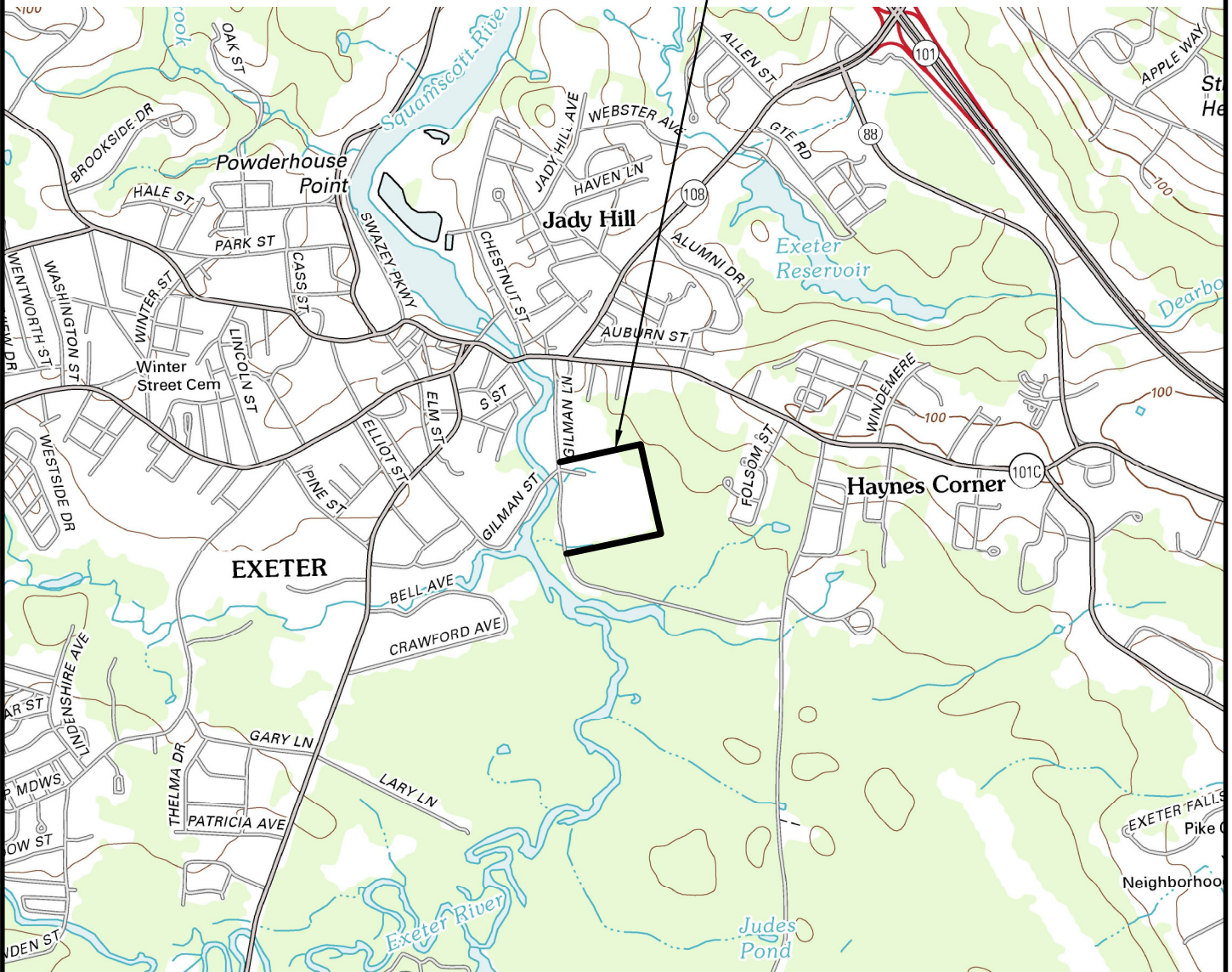
The proposed project is within $\frac{1}{4}$ of the Exeter River; as such we have sent a copy of this application to the Exeter River Local Advisory Committee. Attached is a certified mail receipt for the mailing to the Advisory Committee.



Attachment #6

USGS Map

PROJECT SITE



ARCHITECTURE
ENGINEERING
PLANNING
INTERIOR DESIGN
COMMISSIONING

144 Fore Street/P.O. Box 618
Portland, Maine 04104
tel. (207) 772-3846
fax. (207) 772-1070
www.smrting.com

**PHILLIPS EXETER ACADEMY
SYNTHETIC TURF IMPROVEMENTS**
EXETER, NEW HAMPSHIRE

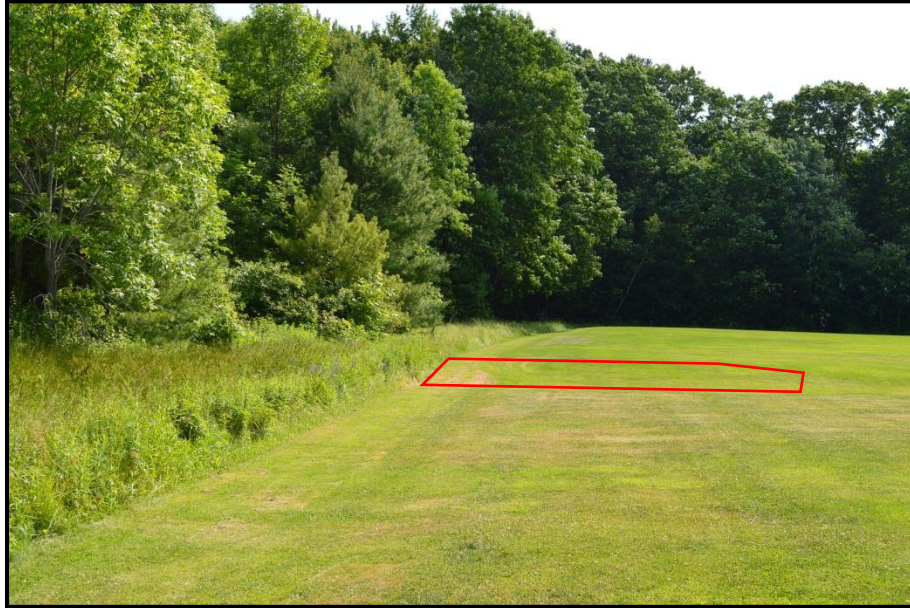
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USGS SITE MAP

REF. SHEET:	SCALE: 1" = 2000'
PROJECT MANAGER: RFW	SKETCH No.
A/E OF RECORD: RFW	
CAD FILE: USGS	PROJECT NO: 14075
PROJECT NO:	
DATE:	



Attachment #7

Photographs



1. Looking Easterly at Wetland Impact Area #1



2. Looking Westerly at Wetland Impact Area #1



3. Looking Northerly at Wetland Impact Area #2

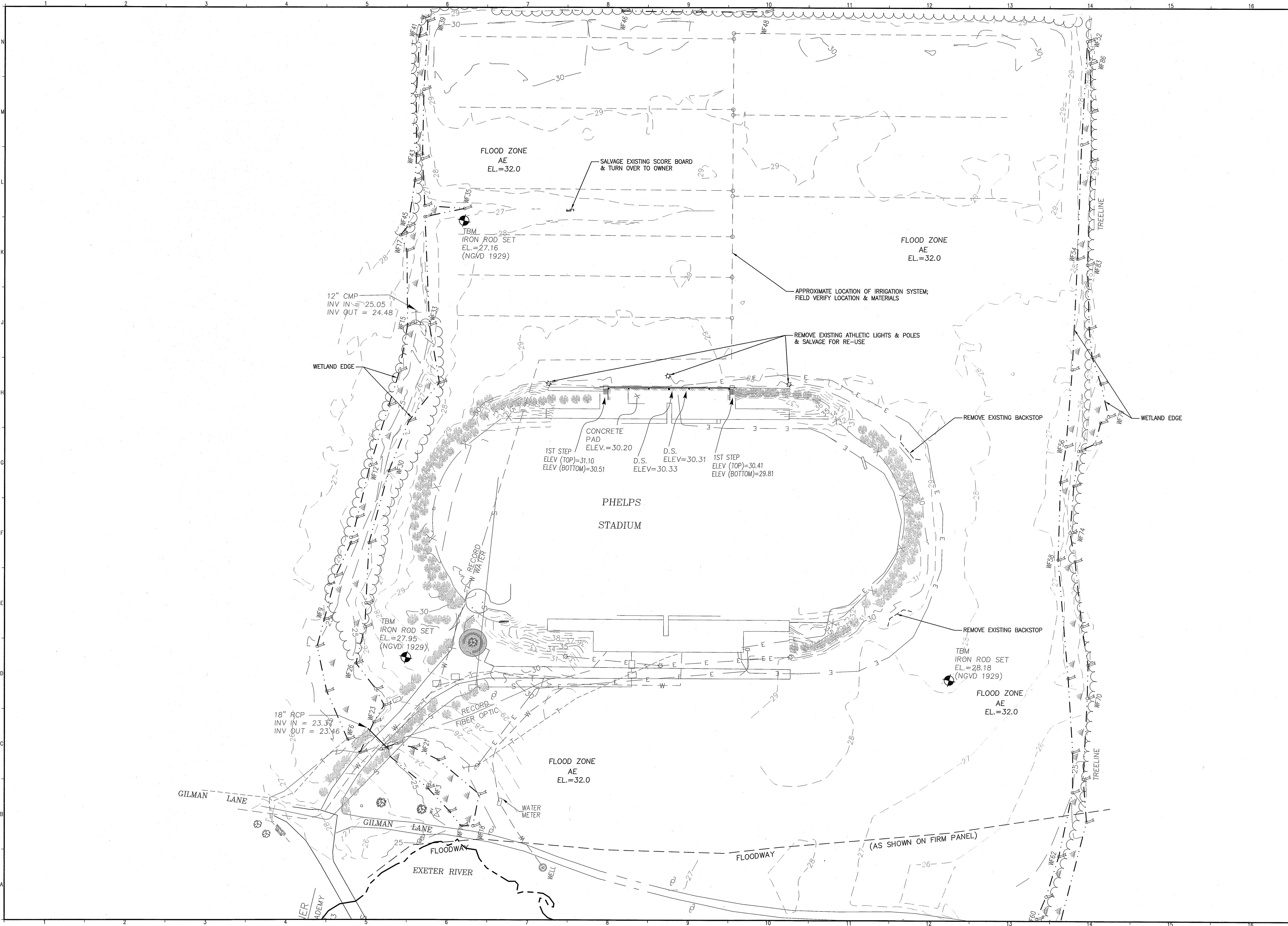


4. Looking North Easterly at Wetland Impact Area #2



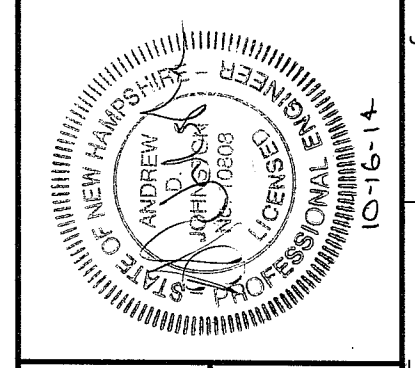
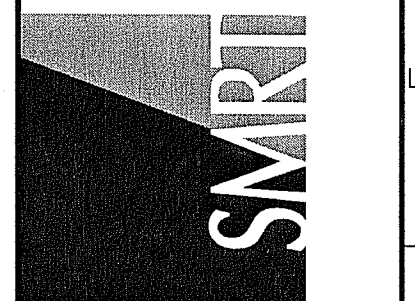
Attachment #8

Plans



144 Fore Street/P.O. Box 618
 Portland, Maine 04104
 tel. (207) 772-8846
 fax. (207) 772-1070
 www.smartinc.com

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**PHILLIPS EXETER ACADEMY
 SYNTHETIC TURF IMPROVEMENTS**
 EXETER, NEW HAMPSHIRE

**SUBMITTED FOR NHDES REVIEW
 10-17-14**

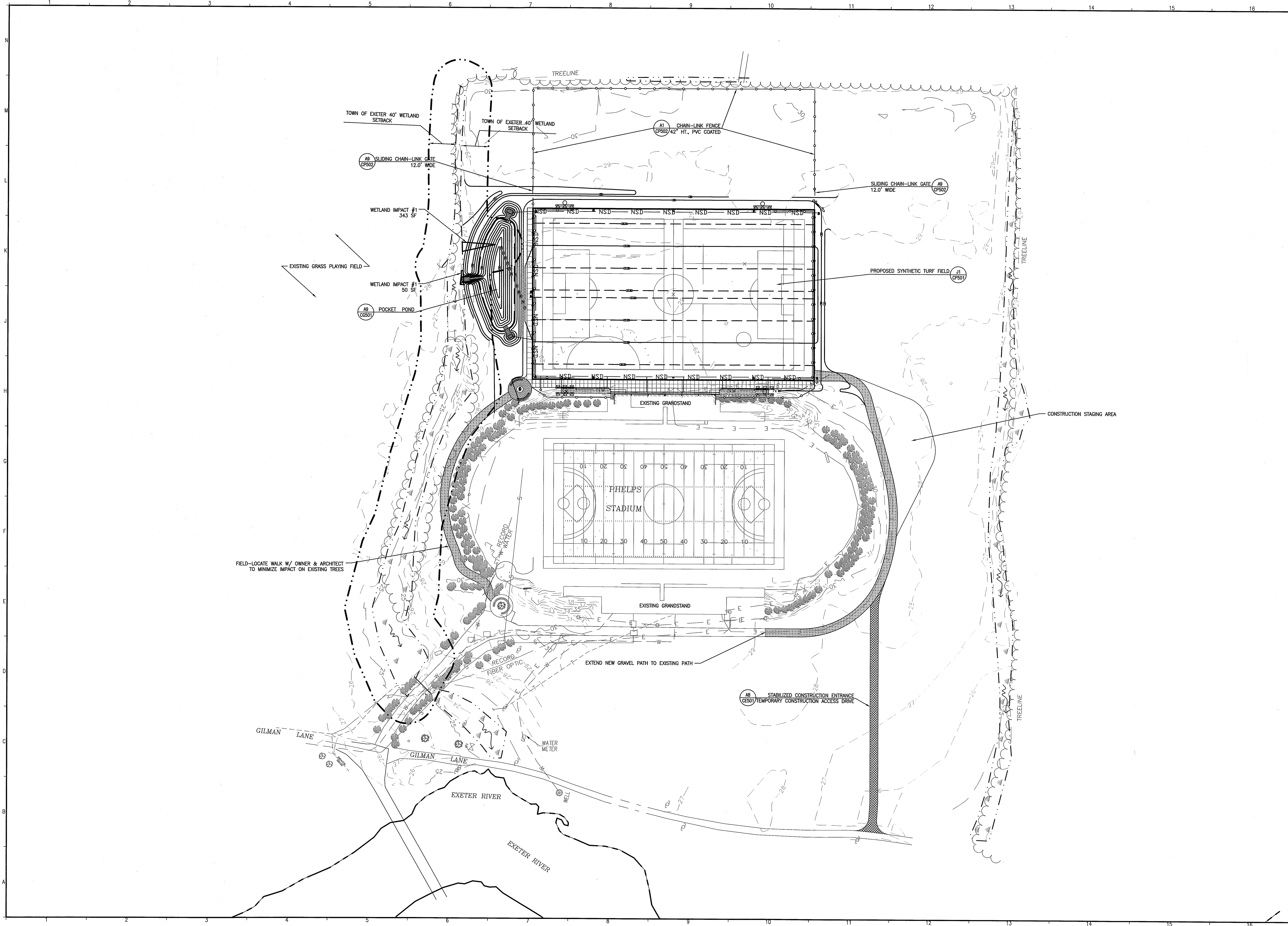
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 I/C/DRAWN BY: WSM
 A/E OF RECORD: ADJ
 CAD FILE: CD101-14075
 PROJECT NO: 14075
 DATE:
 SHEET TITLE:
**EXISTING CONDITIONS
 & REMOVALS PLAN**

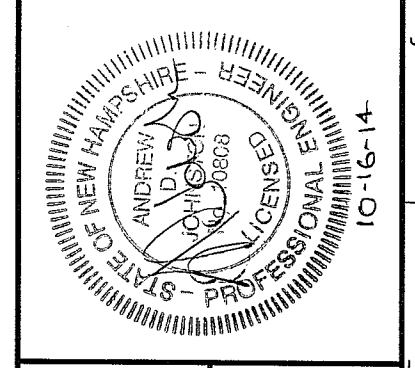
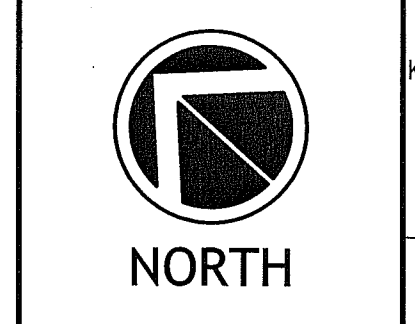
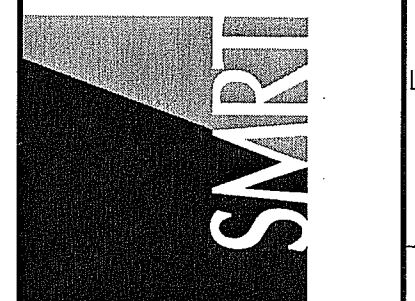
SHEET No.
CD101

PROGRESS PRINT



144 Fore Street/P.O. Box 618
 Portland, Maine 04104
 tel. (207) 772-3846
 fax. (207) 772-1070
 www.smdinc.com

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PHILLIPS EXETER ACADEMY
 SYNTHETIC TURF IMPROVEMENTS
 EXETER, NEW HAMPSHIRE

SUBMITTED FOR NHDES REVIEW
 10-17-14

CURRENT ISSUE STATUS:

REV	DESCRIPTION	DATE
0	ISSUED FOR NHDES REVIEW	10-17-14

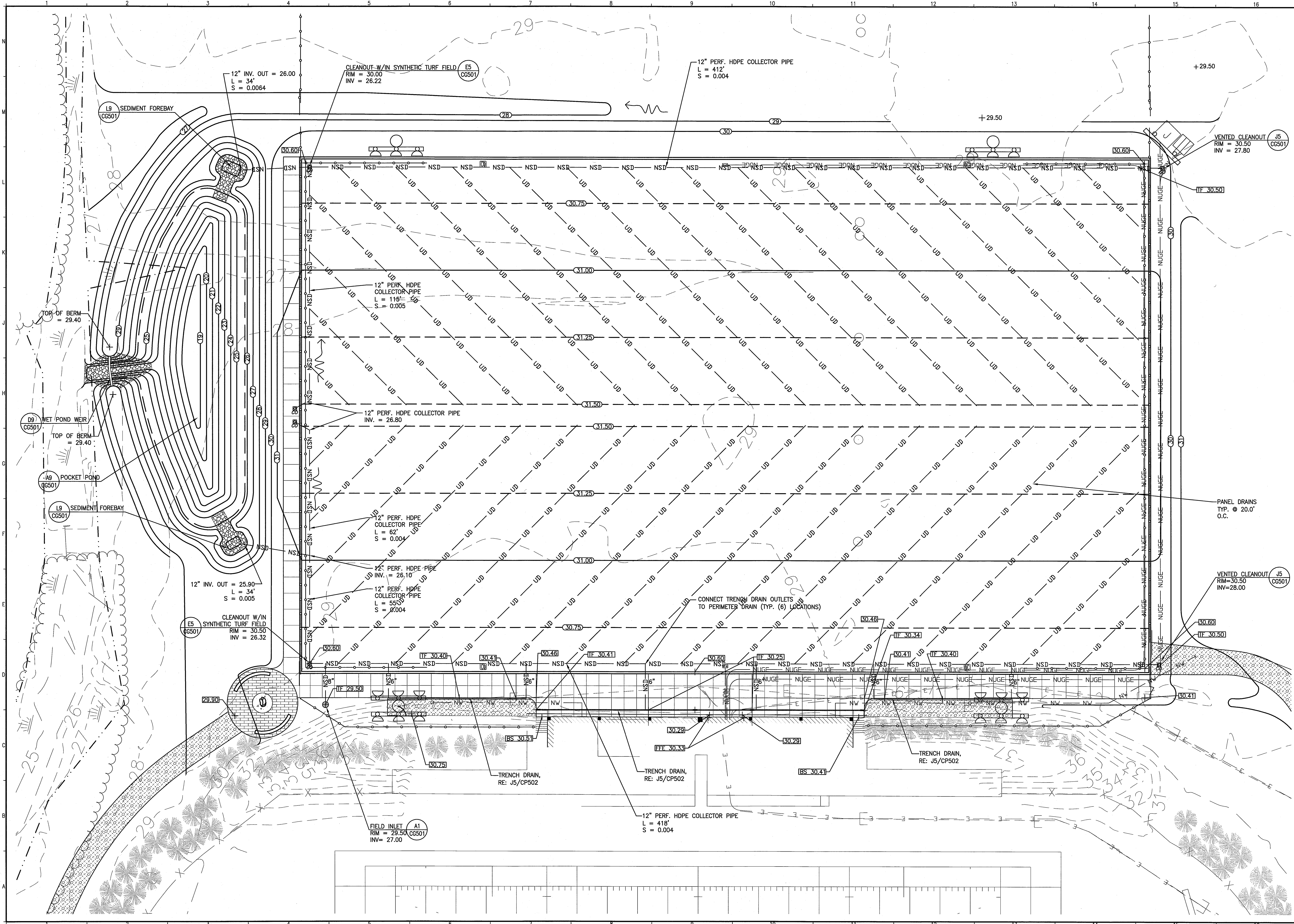
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 0" 1"

SCALE: 1" = 60'

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 A/E OF RECORD: ADJ
 CAD FILE: C-101-14075
 PROJECT NO: 14075
 DATE:
 SHEET TITLE:
 OVERALL SITE PLAN

SHEET No.
 C-101

PROGRESS PRINT



144 Fore Street, P.O. Box 618
 Portland, Maine 04104
 Tel: (207) 772-3646
 Fax: (207) 772-1070
 www.smrinc.com

ARCHITECTURE
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 COMMISSIONING

SMRT

NORTH

REGISTERED PROFESSIONAL ENGINEER
 ANDREW J. ANDREWS
 LICENSE NO. 12608
 STATE OF NEW HAMPSHIRE
 10-15-14

**PHILLIPS EXETER ACADEMY
 SYNTHETIC TURF IMPROVEMENTS**
 EXETER, NEW HAMPSHIRE

**SUBMITTED FOR NHDES REVIEW
 10-17-14**

CURRENT ISSUE STATUS:

REV	DESCRIPTION	DATE
0	ISSUED FOR NHDES REVIEW	10-17-14

GRAPHIC SCALE:
 0' 1" = 20'

SCALE: 1" = 20'

PROJECT MANAGER: RFW
 JC/DRAWN BY: APP
 A/E OF RECORD: ADL
 CAD FILE: CG101-14075
 PROJECT NO: 14075
 DATE:
 SHEET TITLE:
GRADING & DRAINAGE PLAN

SHEET No. **CG101**
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PROGRESS PRINT



NORTH

40' TOWN OF EXETER SETBACK

WETLAND IMPACT #2

WETLAND IMPACT #1

144 Fore Street/P.O. Box 618
Portland, Maine 04104
tel. (207) 772-3846
fax. (207) 772-1070
www.smrinc.com

ARCHITECTURE
ENGINEERING
PLANNING
INTERIOR DESIGN
COMMISSIONING

SMRT

PHILLIPS EXETER ACADEMY SYNTHETIC TURF IMPROVEMENTS

CURRENT ISSUE STATUS:

REV	DESCRIPTION	DATE
0	SUBMITTED FOR WETLANDS REVIEW	10-21-14

SCALE: 1" = 40'

PROJECT MANAGER: RFW

JC/DRAWN BY: WSM

A/E OF RECORD: ADJ

CAD FILE: C-101-14075

PROJECT NO: 14075

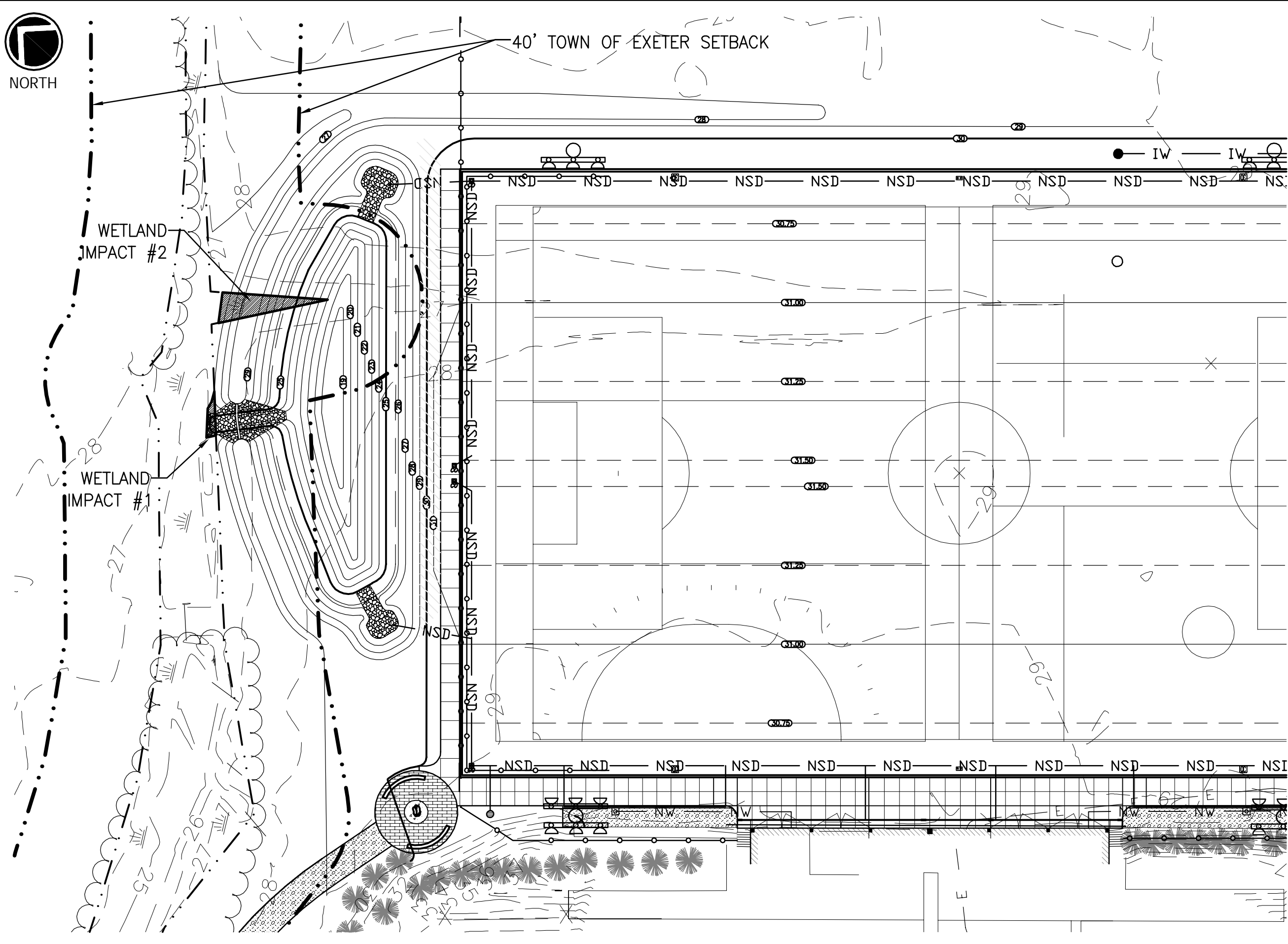
DATE: 10-17-14

SHEET TITLE:

**WETLAND IMPACT
AREAS**

SHEET No. **W-1**

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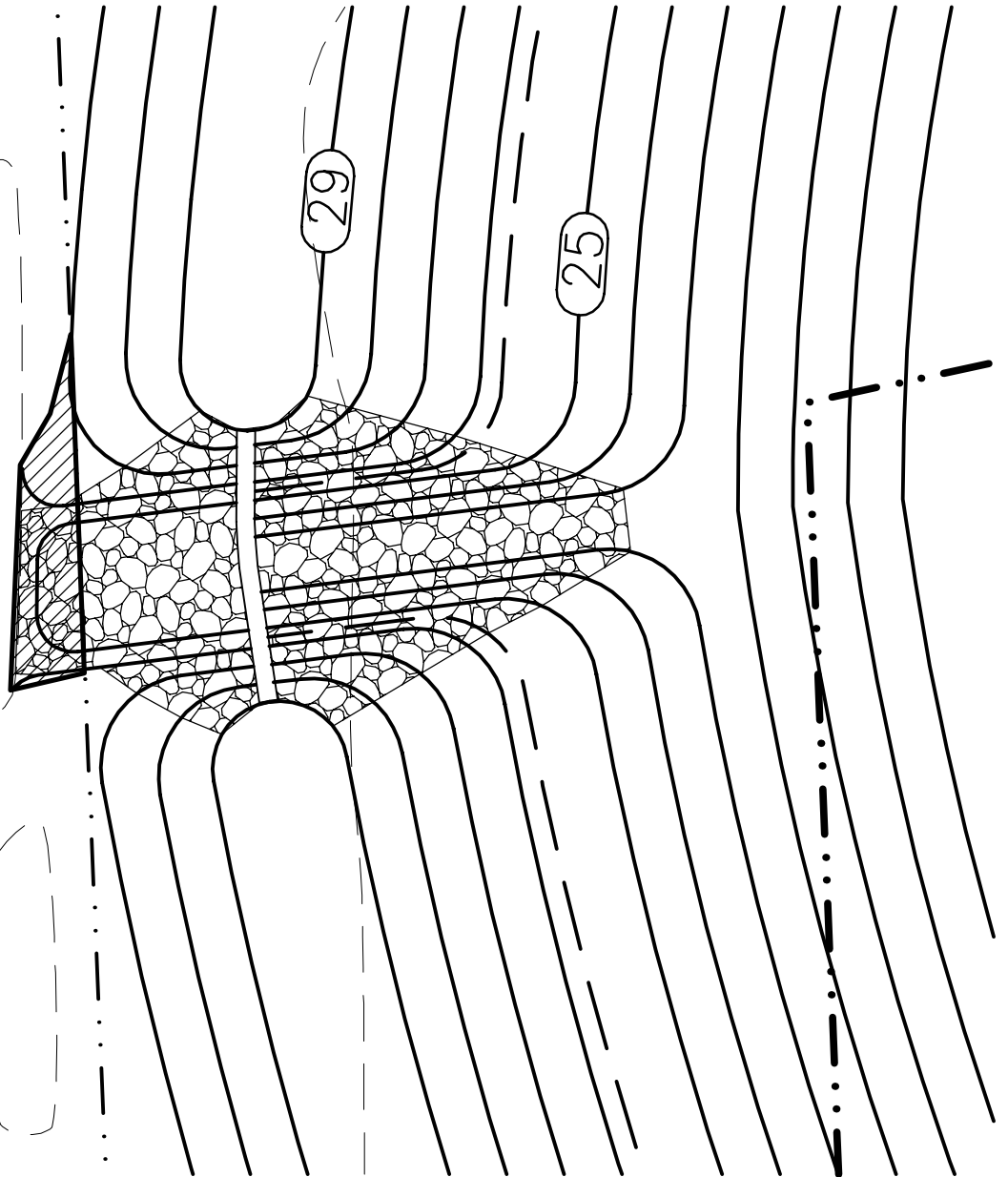




NORTH

Handwritten initials

WETLAND IMPACT
AREA #1 50 SF



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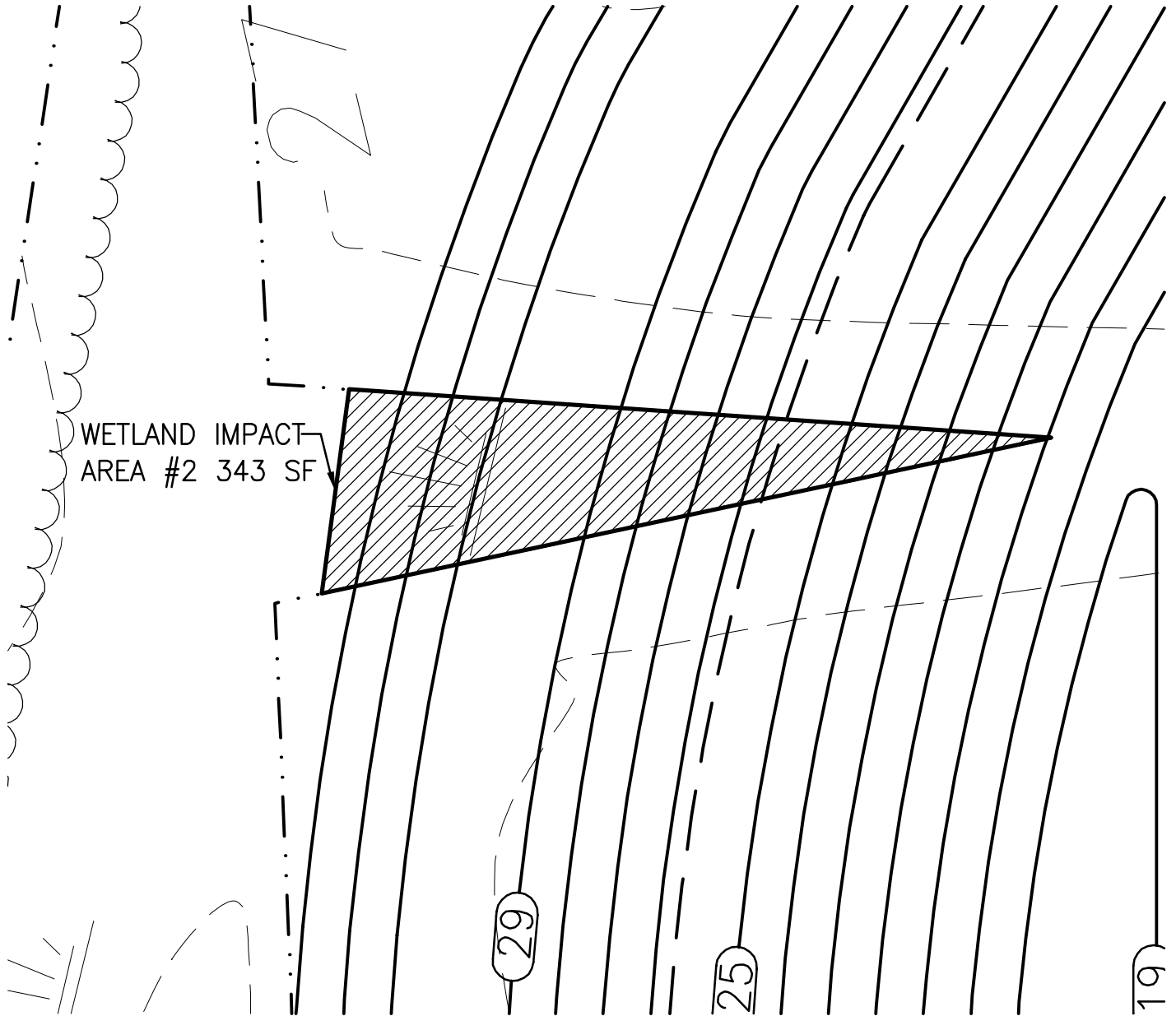
PHILLIPS EXETER ACADEMY
SYNTHETIC TURF IMPROVEMENTS
EXETER, NEW HAMPSHRE

SUBJECT:
WETLAND IMPACT #1

REF. SHEET:	SCALE: 1" = 10'
PROJECT MANAGER: RFW	SUPPLEMENTAL INSTRUCTION:
A/E OF RECORD: ADJ	SKETCH No.
CAD FILE: C-101-14075	W-3
PROJECT NO: 14075	
DATE: 10-17-14	© COPYRIGHT 2013 SMRT INC.



NORTH



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 COMMISSIONING

144 Fore Street/P.O. Box 618
 Portland, Maine 04104
 tel. (207) 772-3846
 fax. (207) 772-1070
 www.smrtinc.com

SUBJECT:

WETLAND IMPACT #2

REF. SHEET:

SCALE: 1" = 10'

PROJECT MANAGER: RFW

SUPPLEMENTAL INSTRUCTION:

A/E OF RECORD: ADJ

CAD FILE: C-101-14075

PROJECT NO: 14075

SKETCH No.

DATE: 10-17-14

W-2

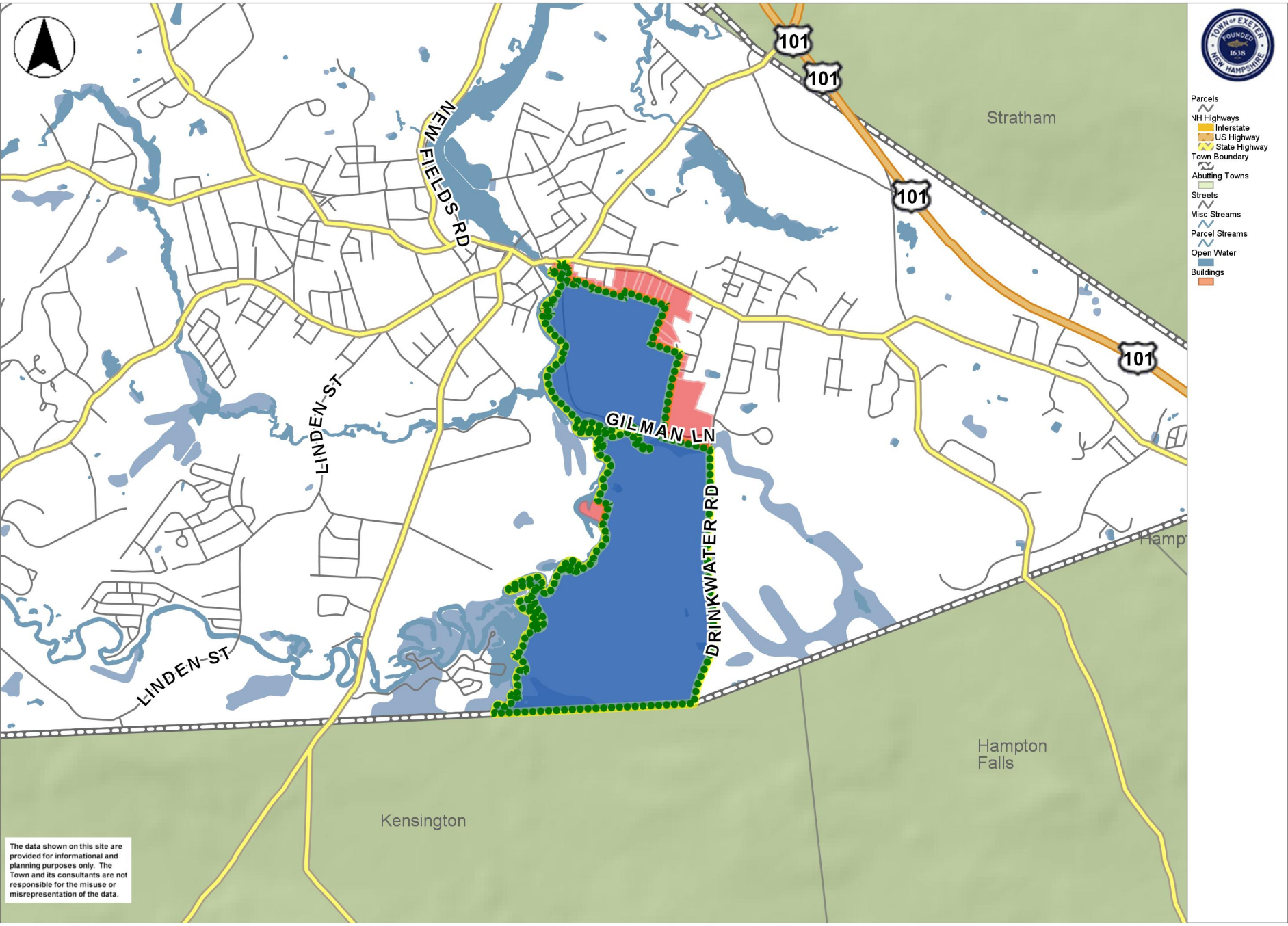
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**PHILLIPS EXETER ACADEMY
 SYNTHETIC TURF IMPROVEMENTS**
 EXETER, NEW HAMPSHRE



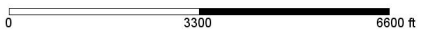
Attachment #9

Tax Map

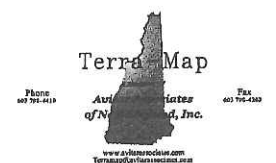
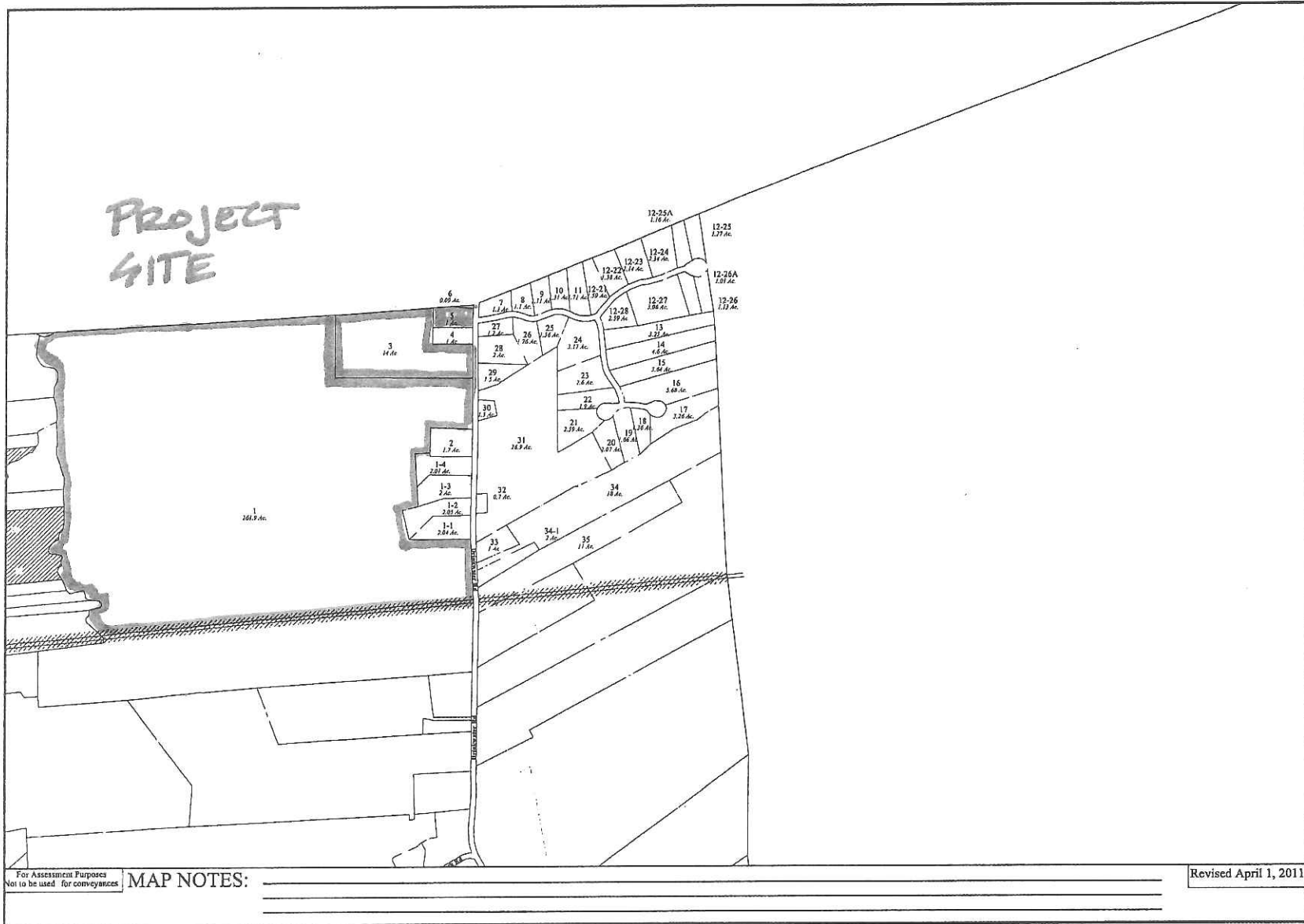


- Parcels
- NH Highways
 - Interstate
 - US Highway
 - State Highway
- Town Boundary
- Abutting Towns
- Streets
- Misc Streams
- Parcel Streams
- Open Water
- Buildings

The data shown on this site are provided for informational and planning purposes only. The Town and its consultants are not responsible for the misuse or misrepresentation of the data.



PROJECT
SITE

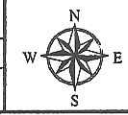
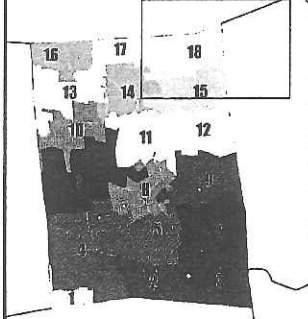
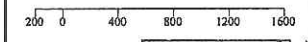


Town of
KENSINGTON
Rockingham County
New Hampshire

LEGEND

- Lot-Sub 2-12
- Acreage 20 Ac.S
- S-Survey C-Calculated
- Dimensions (Feet) 200'
- Discontinued -----
- Easement - - - - -
- Private Road - - - - -
- Water Features [Symbol]
- Wetlands [Symbol]
- Power Lines [Symbol]
- Conservation Easements [Symbol]
- Town Owned Land [Symbol]

SCALE

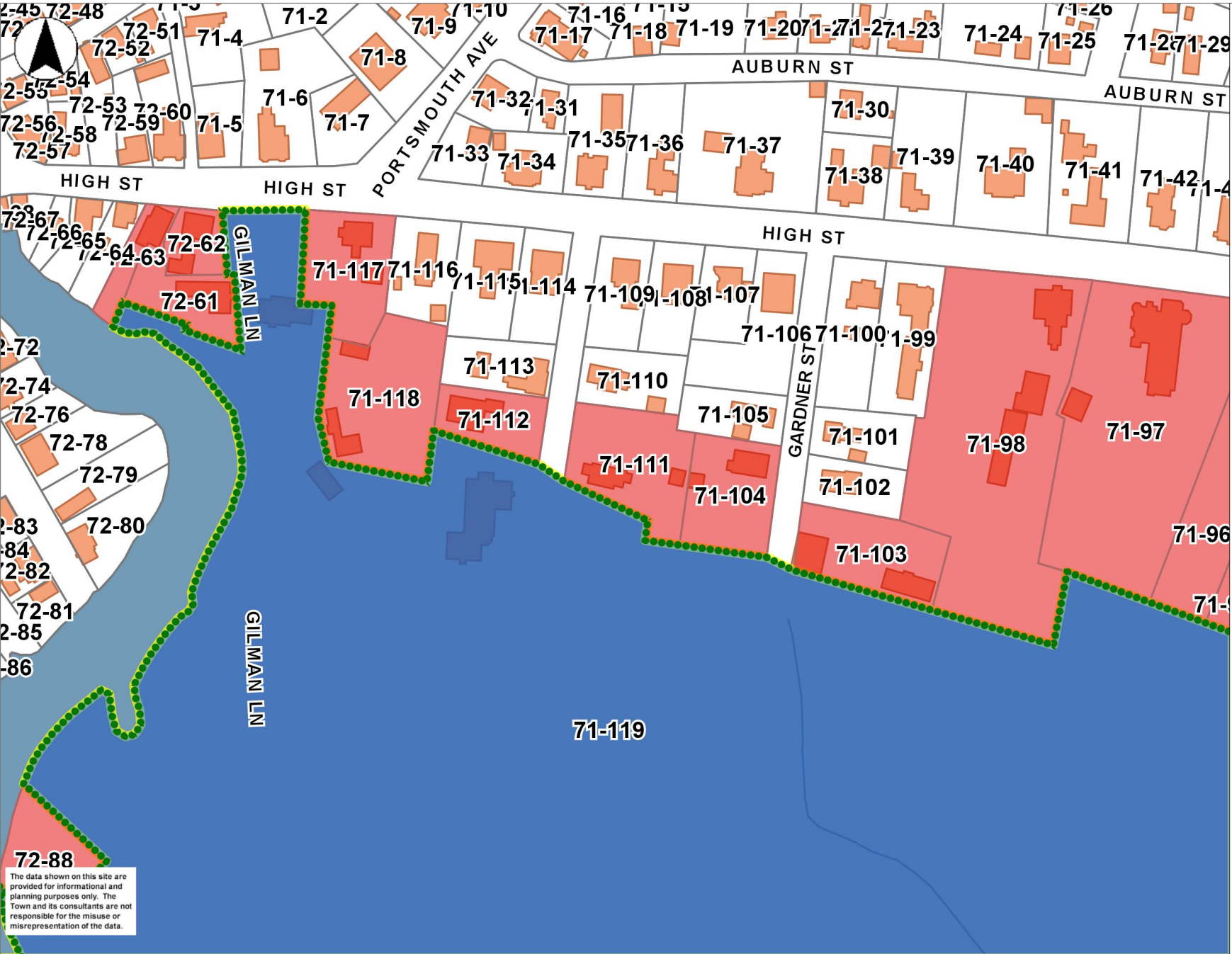


MAP
18

For Assessment Purposes
Not to be used for conveyances

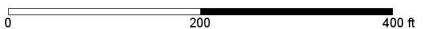
MAP NOTES: _____

Revised April 1, 2011



- Parcels
- NH Highways
- Interstate
- US Highway
- State Highway
- Town Boundary
- Abutting Towns
- Streets
- Misc Streams
- Parcel Streams
- Open Water
- Buildings

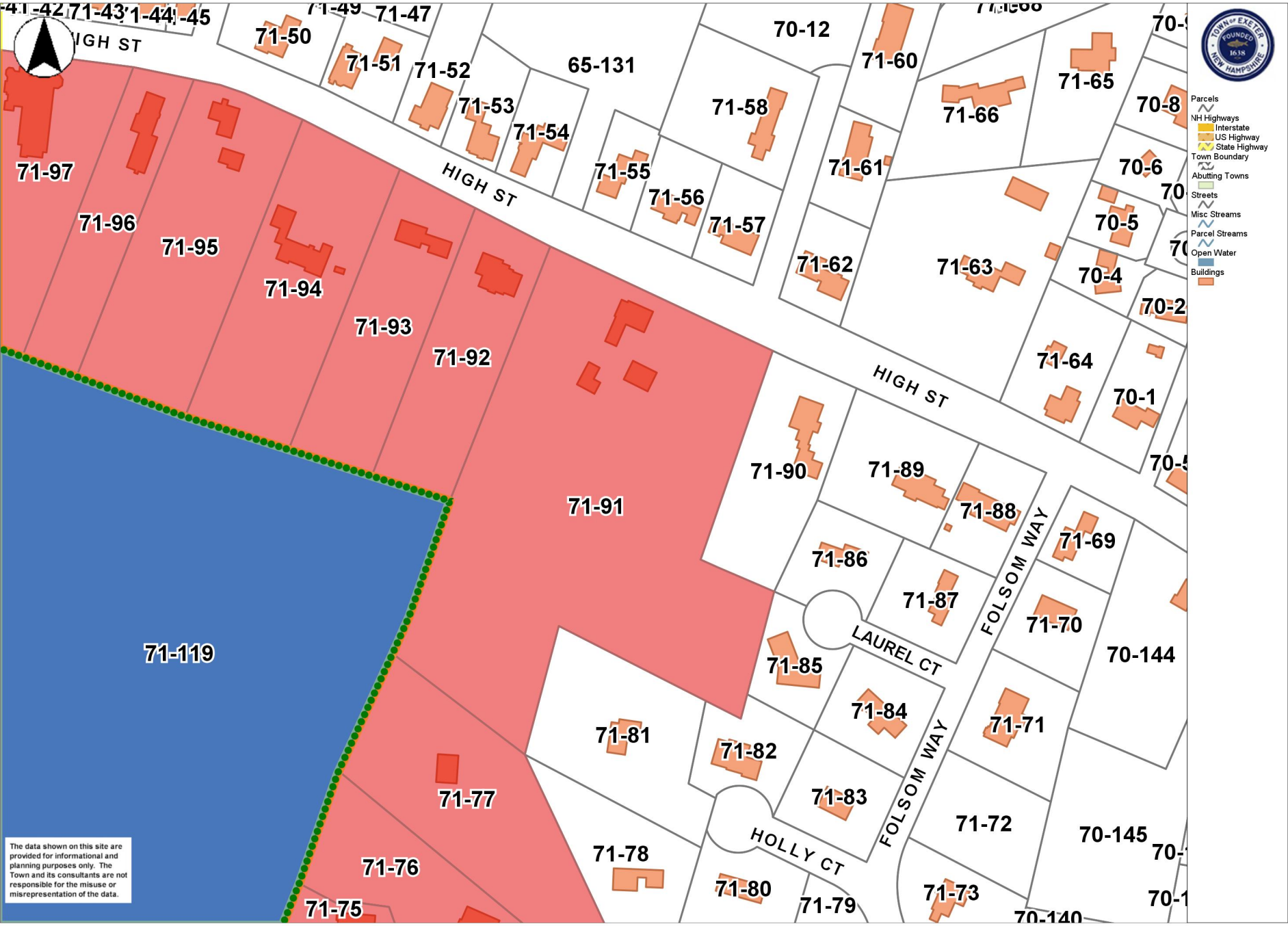
72-88
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71-42 71-43 71-44 71-45



- Parcels
- NH Highways
- Interstate
- US Highway
- State Highway
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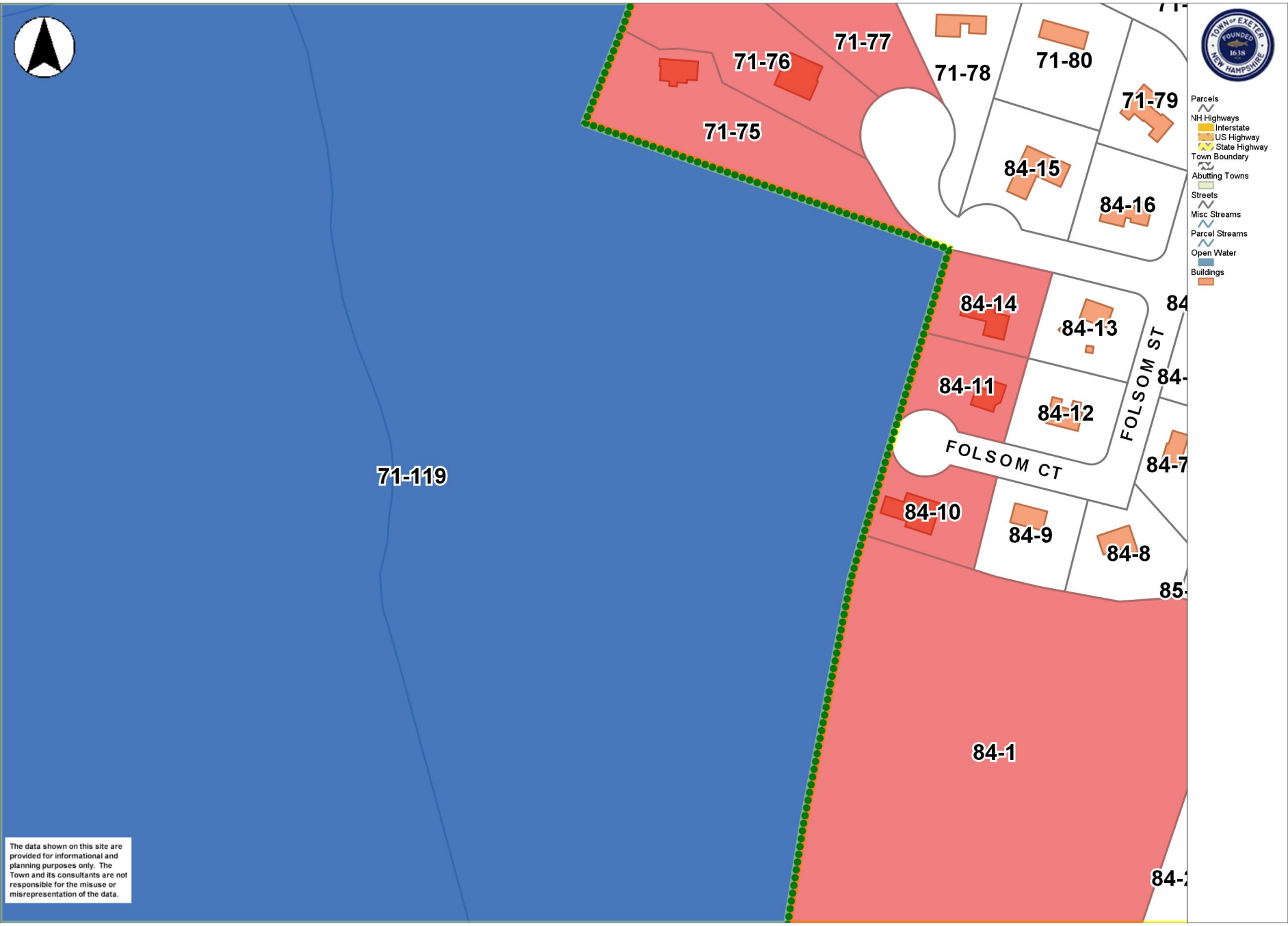


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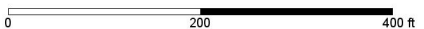




- Parcels
- NH Highways
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94-19

71-119

93-12

- Parcels
- NH Highways
- Interstate
- US Highway
- State Highway
- Town Boundary
- Abutting Towns
- Streets
- Misc Streams
- Parcel Streams
- Open Water
- Buildings

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0 200 400 ft

Printed on 10/03/2014 at 03:11 PM



Attachment #10

Abutter Notifications



November 20, 2014

**Re: New Hampshire Department of Environmental Services
Wetlands Permit Application
Phillips Exeter Academy, Gilman Lane, Exeter NH
Tax Map 71 / Lot No. 119**

Dear Abutter:

Please take notice that Phillips Exeter Academy is intending on submitting a Wetlands Permit Application with the New Hampshire Department of Environmental Services (NHDES) Wetland Bureau for a Wetlands Permit associated with the above referenced project. The application is for work to develop an artificial turf field at the location of an existing grass field. The proposed project is located off Gilman Lane, behind the existing Phelps Stadium, on the campus of Phillips Exeter Academy. Under State law RSA 482-A: 3 I (d) (1), we are required to notify you about the application, which proposes work abutting your property.

Once it is filed, the permit application, including plans that show the proposed project will be available for viewing at the City Clerk's Office in the Town of Exeter. A copy of the application may also be seen at the NHDES offices by scheduling a file review, (by calling (603) 271- 8876) or online at <http://www4.egov.nh.gov/DES/FileReview/>.

Sincerely,

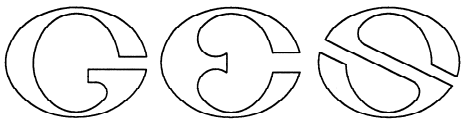
A handwritten signature in black ink, appearing to read "Kenneth Costello", with a long horizontal flourish extending to the right.

Kenneth Costello
SMRT, Inc.
1 Dundee Park, Suite 4
Andover, MA 01810
207-321-3986
kcostello@smrtinc.com



Attachment #11

Wetland Delineation Report



GOVE ENVIRONMENTAL SERVICES, INC.

August 12, 2014

Kenneth D. Costello RLA, LEED AP
Senior Landscape Architect
Licensed: MA, NH & RI
SMRT
One Dundee Park, Suite 4
Andover, Massachusetts 01810

Subject: Wetland Delineation Report
Phillips Exeter Academy Fields

Dear Mr. Costello:

Per your request, this letter is to verify that Gove Environmental Services, Inc., performed a site inspection to identify wetlands at the above-referenced property. Wetlands were evaluated utilizing the following standards:

1. US Army Corps of Engineers Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Technical Report ERDC/EL TR-09-19 (Oct 2009).
2. Field Indicators of Hydric Soils in the United States, A Guide for Identifying and Delineating Hydric Soils, Version 7.0. United States Department of Agriculture (2010).
3. North American Digital Flora: National Wetland Plant List, Version 2.2.1 (2009).
4. USFW Manual FWS/OBS-79/31 (1979).

Here areas of wetlands were identified within the area designated for the scope of work.

Wetland 1 is a predominantly emergent with a minor scrub-shrub component, dominated by sedges and rushes, as well as cinnamon and sensitive fern in the herbaceous layer with alder and dogwood in the shrub layer. This wetland drains from the west to the east where it enters a culvert and drains to the river. Delineation was marked as 1-45. This wetland acts as a conveyance for water from the sheet flow off of the field as well as increased levels of water during the spring and fall.

Wetland 2 is located to the back of the existing ball field and is flagged as 46-51 and is an emergent wetland system dominated by sedges and grasses. Hydrology is primarily from surface flow and some ground water during high ground water levels in the spring and fall.

8 Continental Dr Unit H, Exeter, NH 03833-7507
Ph (603) 778 0644 / Fax (603) 778 0654
www.gesinc.biz
info@gesinc.biz

Wetland 3 is located to the south of the ball field and is part of a larger system extending further south. The wetland is combination of emergent/scrub-shrub/forested, with Ferns and sedges in the herbaceous layer, high bush blueberry and sweet pepper bush in the shrub layer and red maple, yellow birch and oaks in the tree layer. The area closest to the open grass is fed by runoff, as the rest of the wetland area is predominantly seasonal ground water functions influenced.

This concludes the wetland delineation report. If I can be of further assistance, please feel free to contact me at (603) 778-0644.

Sincerely,



Luke D. Hurley, CWS, SSA CESSWI
Vice President
Gove Environmental Services, Inc.





Attachment #12

U.S. Fish and Wildlife Service IPAC Review

Wetland Permit Application
Phillips Exeter Synthetic Field



U.S. Fish and Wildlife Service IPAC Review

At the suggestion of the U.S. Army Corps of Engineers we utilized the online IPAC review to check for endangered species with the vicinity of our project. There are no listed endangered species, critical habitats, or National Wildlife Refuges in the vicinity of our project. See attached Trust Resource printout.



U.S. Fish and Wildlife Service

Trust Resources List

This resource list is to be used for planning purposes only — it is not an official species list.

Endangered Species Act species list information for your project is available online and listed below for the following FWS Field Offices:

New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 3301
(603) 223-2541
<http://www.fws.gov/newengland>

Project Name:

PEA



U.S. Fish and Wildlife Service

Trust Resources List

Project Location Map:



Project Counties:

Rockingham, NH

Geographic coordinates (Open Geospatial Consortium Well-Known Text, NAD83):

MULTIPOLYGON (((-70.942063 42.9772995, -70.93956 42.9771603, -70.9385022 42.9772878, -70.9378584 42.9752442, -70.9397675 42.974888, -70.9419148 42.974565, -70.9421308 42.9762252, -70.942063 42.9772995)))

Project Type:

Development



U.S. Fish and Wildlife Service

Trust Resources List

Endangered Species Act Species List ([USFWS Endangered Species Program](#)).

There are no listed species found within the vicinity of your project.

Critical habitats within your project area:

There are no critical habitats within your project area.

FWS National Wildlife Refuges ([USFWS National Wildlife Refuges Program](#)).

There are no refuges found within the vicinity of your project.

FWS Migratory Birds ([USFWS Migratory Bird Program](#)).

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. For more information regarding these Acts see: <http://www.fws.gov/migratorybirds/RegulationsandPolicies.html>.

All project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project. To meet these conservation obligations, proponents should identify potential or existing project-related impacts to migratory birds and their habitat and develop and implement conservation measures that avoid, minimize, or compensate for these impacts. The Service's Birds of Conservation Concern (2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

For information about Birds of Conservation Concern, go to:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html>.

To search and view summaries of year-round bird occurrence data within your project area, go to the Avian Knowledge Network Histogram Tool links in the Bird Conservation Tools section at: <http://www.fws.gov/migratorybirds/CCMB2.htm>.

For information about conservation measures that help avoid or minimize impacts to birds, please visit:

<http://www.fws.gov/migratorybirds/CCMB2.htm>.



Trust Resources List

Migratory birds of concern that may be affected by your project:

There are **17** birds on your Migratory birds of concern list. The underlying data layers used to generate the migratory bird list of concern will continue to be updated regularly as new and better information is obtained. User feedback is one method of identifying any needed improvements. Therefore, users are encouraged to submit comments about any questions regarding species ranges (e.g., a bird on the USFWS BCC list you know does not occur in the specified location appears on the list, or a BCC species that you know does occur there is not appearing on the list). Comments should be sent to [the ECOS Help Desk](#).

Species Name	Bird of Conservation Concern (BCC)	Species Profile	Seasonal Occurrence in Project Area
American Oystercatcher (<i>Haematopus palliatus</i>)	Yes	species info	Breeding
American bittern (<i>Botaurus lentiginosus</i>)	Yes	species info	Breeding
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Yes	species info	Year-round
Black-billed Cuckoo (<i>Coccyzus erythrophthalmus</i>)	Yes	species info	Breeding
Blue-winged Warbler (<i>Vermivora pinus</i>)	Yes	species info	Breeding
Canada Warbler (<i>Wilsonia canadensis</i>)	Yes	species info	Breeding
Hudsonian Godwit (<i>Limosa haemastica</i>)	Yes	species info	Migrating
Least Bittern (<i>Ixobrychus exilis</i>)	Yes	species info	Breeding
Olive-Sided flycatcher (<i>Contopus cooperi</i>)	Yes	species info	Breeding
Peregrine Falcon (<i>Falco peregrinus</i>)	Yes	species info	Breeding
Pied-billed Grebe (<i>Podilymbus podiceps</i>)	Yes	species info	Breeding
Prairie Warbler (<i>Dendroica discolor</i>)	Yes	species info	Breeding
Purple Sandpiper (<i>Calidris maritima</i>)	Yes	species info	Wintering



Trust Resources List

Saltmarsh Sparrow (<i>Ammodramus caudacutus</i>)	Yes	species info	Breeding
Short-eared Owl (<i>Asio flammeus</i>)	Yes	species info	Wintering
Snowy Egret (<i>Egretta thula</i>)	Yes	species info	Breeding
Wood Thrush (<i>Hylocichla mustelina</i>)	Yes	species info	Breeding

NWI Wetlands ([USFWS National Wetlands Inventory](#)).

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information on the extent and status of wetlands in the U.S., via the National Wetlands Inventory Program (NWI). In addition to impacts to wetlands within your immediate project area, wetlands outside of your project area may need to be considered in any evaluation of project impacts, due to the hydrologic nature of wetlands (for example, project activities may affect local hydrology within, and outside of, your immediate project area). It may be helpful to refer to the USFWS National Wetland Inventory website. The designated FWS office can also assist you. Impacts to wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes. Project Proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate [U.S. Army Corps of Engineers District](#).

Data Limitations, Exclusions and Precautions

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery and/or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.



U.S. Fish and Wildlife Service

Trust Resources List

Exclusions - Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Precautions - Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

IPaC is unable to display wetland information at this time.

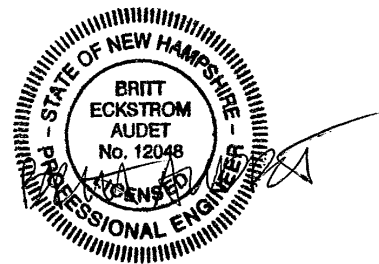
**Town of Exeter, NH
Linden Street & Court Street
Culvert Replacement Project**

**NEW HAMPSHIRE WETLANDS BUREAU
STANDARD DREDGE AND FILL
PERMIT APPLICATION**

November 2014

Prepared for:

Town of Exeter
Public Works Department
13 Newfields Road
Exeter, NH 03833



Prepared by:

CMA
ENGINEERS

35 Bow Street
Portsmouth, NH 03801
(603) 431-6196 · Fax (603) 431-5376



CMA ENGINEERS, INC.
CIVIL/ENVIRONMENTAL ENGINEERS

35 Bow Street
Portsmouth, New Hampshire
03801-3819

Phone: 603/431-6196

Fax: 603/431-5376

E-mail: info@cmaengineers.com

Web Site: www.cmaengineers.com

November 10, 2014

Frank Richardson, Ph.D.
Senior Wetlands Inspector
NHDES Wetlands Bureau
6 Hazen Drive, P.O. Box 95
Concord, NH 03302-0095

**Re: Exeter, New Hampshire
Linden Street & Court Street Culvert Replacement
Standard Dredge and Fill Permit Application
CMA #923**

Dear Mr. Richardson:

Enclosed please find a Standard Dredge and Fill Application and associated filing fee, filed on behalf of the Town of Exeter, for replacement of the existing culverts at the Linden Street and Court Street crossings of the Little River.

The project proposes to remove the existing steel plate arch culverts and embankments and to construct a full width bridge crossing at each location.

Should you have any questions or need additional information, please contact me at (603) 431-6196 or at baudet@cmaengineers.com.

Very truly yours,
CMA ENGINEERS, INC.

Britt E. Audet, P.E.
Project Engineer

BEA

Enclosures

cc: Jay Perkins, Sr., Highway Superintendent, Exeter Public Works Department

Linden Street & Court Street Culvert Replacement Project
NEW HAMPSHIRE WETLANDS BUREAU
STANDARD DREDGE AND FILL PERMIT APPLICATION

TABLE OF CONTENTS

- A. Application Fee (*attached*)
- B. Application Form (*including Project Description*)
- C. Required Signatures (*see Application Form*)
- D. Pre-Application Notes
- E. Need and Minimization & Avoidance
- F. NHB Review
- G. NH PGP Requirements
 - 1. U.S. Army Corps of Engineers Appendix B
 - 2. NHDHR
- H. Designated River Check (*see Application Form*)
- I. USGS Map
- J. Photographs
- K. Plans
- L. Tax Map
- M. Abutter Notification
- N. Permission for work within 20 feet
- O. Wetland Classification Report
- P. Stream Crossing Requirements



THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENVIRONMENTAL SERVICES
LAND RESOURCES MANAGEMENT
WETLANDS BUREAU

29 Hazen Drive, PO Box 95, Concord, NH 03302-0095
Phone: (603) 271-2147 Fax: (603) 271-6588
<http://des.nh.gov/organization/divisions/water/wetlands>



PERMIT APPLICATION

<i>Administrative Use Only</i>	<i>Administrative Use Only</i>	<i>Administrative Use Only</i>	File No.:
			Check No.:
			Amount:
			Initials:

1. REVIEW TIME:

Indicate your Review Time below. Refer to Guidance Document A for instructions.

Standard Review (Minimum, Minor or Major Impact)

Expedited Review (Minimum Impact)

2. PROJECT LOCATION:

Separate applications must be filed with each municipality that jurisdictional impacts will occur in.

ADDRESS: **Linden Street & Court Street**

TOWN/CITY: **Exeter**

TAX MAP: **Maps 82, 83 & 95**

BLOCK: **N/A**

LOT: **ROW**

UNIT:

USGS TOPO MAP WATERBODY NAME: **Little River**

NA

STREAM WATERSHED SIZE: **15.7 mi²**

NA

LOCATION COORDINATES (If known): **Linden 42.9723,-70.9596 Court: 42.9726, -70.9510**

Latitude/Longitude UTM State Plane

3. PROJECT DESCRIPTION:

Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

The Town of Exeter is seeking to replace two existing crossings of the Little River. The Linden Street crossing consists of two 12'-10" by 8'- 4" steel plate arch culverts that were built in 1967. The Court Street crossing consists of three 14'-0" by 9'- 8" that were built in 1965. The existing culverts are deteriorating and need to be replaced. The proposed replacement structure will be a single span bridge at each crossing. Approximately 2,850 sq. ft. of wet land impacts are proposed at the Linden Street crossing for removal of the existing culverts and regrading around the proposed wing walls. Approximately, 4,650 sq. ft. of wetland impacts are proposed at the Court Street crossing for removal of the existing culverts and regrading around the proposed wing walls.

4. RELATED PERMITS, ENFORCEMENT, EMERGENCY AUTHORIZATION, SHORELAND, ALTERATION OF TERRAIN, ETC...

None

5. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:

See the Instructions & Required Attachments document for instructions to complete a & b below.

a. Natural Heritage Bureau File ID: NHB ___ - **14-2008 and 14-2033** .

b. Designated River the project is in ¼ miles of: _____ ; and
date a copy of the application was sent to Local River Advisory Committee: Month: ___ Day: ___ Year: _____

NA

6. APPLICANT INFORMATION (Desired permit holder)LAST NAME, FIRST NAME, M.I.: **Perkins, Jay**TRUST / COMPANY NAME: **Exeter Department of Public Works**MAILING ADDRESS: **13 Newfields Road**TOWN/CITY: **Exeter**STATE: **NH**ZIP CODE: **03833**EMAIL or FAX: **jperkins@exeternh.gov**PHONE: **603-773-6157**ELECTRONIC COMMUNICATION: By initialing here: **JP**, I hereby authorize DES to communicate all matters relative to this application electronically**7. PROPERTY OWNER INFORMATION (If different than applicant)**LAST NAME, FIRST NAME, M.I.: **same as applicant**

TRUST / COMPANY NAME:

MAILING ADDRESS:

TOWN/CITY:

STATE:

ZIP CODE:

EMAIL or FAX:

PHONE:

ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize DES to communicate all matters relative to this application electronically

8. AUTHORIZED AGENT INFORMATIONLAST NAME, FIRST NAME, M.I.: **Audet, Britt E.**COMPANY NAME: **CMA Engineers, Inc.**MAILING ADDRESS: **35 Bow Street**TOWN/CITY: **Portsmouth**STATE: **NH**ZIP CODE: **03801**EMAIL or FAX: **baudet@cmaengineers.com**PHONE: **603.431.6196**ELECTRONIC COMMUNICATION: By initialing here **BEA**, I hereby authorize DES to communicate all matters relative to this application electronically**9. PROPERTY OWNER SIGNATURE:**

See the Instructions & Required Attachments document for clarification of the below statements

By signing the application, I am certifying that:

1. I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.
2. I have reviewed and submitted information & attachments outlined in the Instructions and Required Attachment document.
3. All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900.
4. I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type.
5. I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative.
6. Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47.
7. I have submitted a copy of the application materials to the NH State Historic Preservation Officer.
8. I authorize DES and the municipal conservation commission to inspect the site of the proposed project.
9. I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate.
10. I understand that the willful submission of falsified or misrepresented information to the New Hampshire Department of Environmental Services is a criminal act, which may result in legal action.
11. I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining.
12. The mailing addresses I have provided are up to date and appropriate for receipt of DES correspondence. DES will not forward returned mail.



Property Owner Signature

Print name legibly

Date

Jay Perkins

11-10-14

MUNICIPAL SIGNATURES

10. CONSERVATION COMMISSION SIGNATURE

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.

Authorized Commission Signature	Print name legibly	Date
---------------------------------	--------------------	------

DIRECTIONS FOR CONSERVATION COMMISSION

1. Expedited review **ONLY** requires that the conservation commission's signature is obtained in the space above.
2. The Conservation Commission signature should be obtained **prior** to the submittal of the original application and four copies to the town/city clerk for mailing to the DES.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will reviewed in the standard review time frame.

11. TOWN / CITY CLERK SIGNATURE

As required by Chapter 482-A:3 (amended 2014), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

Town/City Clerk Signature	Andrea J. Kohler Print name legibly	Exeter Town/City	11/10/14 Date
---------------------------	--	---------------------	------------------

DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3,1

1. For applications where "Expedited Review" is checked on page 1, sign and accept the applications **only** if the Conservation Commission signature has been received;
2. **IMMEDIATELY** sign the original application form and four copies in the signature space provided above;
3. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
4. **IMMEDIATELY** distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board; and
5. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:

1. Submit the original permit application form bearing the signature of the Town/ City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery.

12. IMPACT AREA:

For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact

Permanent: impacts that will remain after the project is complete.

Temporary: impacts not intended to remain (and will be restored to pre-construction conditions) after the project is complete.

After-the-fact (ATF): work completed prior to receipt of this application by DES. Check box to indicate ATF.

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.	TEMPORARY Sq. Ft. / Lin. Ft.
Forested wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Scrub-shrub wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Emergent wetland	1485 <input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Wet meadow	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Intermittent stream	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Perennial Stream / River	6015 / 165 <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Lake / Pond	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Intermittent stream	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Perennial stream / River	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Lake / Pond	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Tidal water	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Salt marsh	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Sand dune	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland buffer	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Undeveloped Tidal Buffer Zone (TBZ)	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Previously-developed upland in TBZ	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - Lake / Pond	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - River	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - Tidal Water	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
TOTAL	7500 / 165	/

13. APPLICATION FEE: See the Instructions & Required Attachments document for further instruction

Minimum Impact Fee: Flat fee of \$ 200

Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking) 7500 sq. ft. X \$0.20 = \$ 1500

Temporary (seasonal) docking structure: _____ sq. ft. X \$1.00 = \$

Permanent docking structure: _____ sq. ft. X \$2.00 = \$

Projects proposing shoreline structures (including docks) add \$200 = \$

Total = \$ 1500

The Application Fee is the above calculated Total or \$200, whichever is greater = \$

D. Pre-Application Notes

A pre-application meeting was held with Frank Richardson, NHDES, and Britt Audet, CMA Engineers, Inc. on September 23, 2014. The overall goals of the project were discussed, the anticipated two phase construction schedule and permitting both projects with one application. The need for filing a separate Shoreland Protection permit application was discussed. Mr. Richardson indicated that a copy of the Shoreland permit worksheet should be included in the wetlands application. The worksheet is included in this section.



THE STATE OF NEW HAMPSHIRE
 DEPARTMENT OF ENVIRONMENTAL SERVICES
 LAND RESOURCES MANAGEMENT
 WETLANDS BUREAU



29 Hazen Drive, PO Box 95, Concord, NH 03302-0095
 Phone: (603) 271-2147 Fax: (603) 271-6588

Website: <http://des.nh.gov/organization/divisions/water/wetlands/cspa/index.htm>
 Permit Application Status: http://www2.des.state.nh.us/OneStop/Wetland_Permits_Query.aspx

SHORELAND APPLICATION WORKSHEET

This form must be submitted to the Department of Environmental Services Wetlands Bureau accompanied with a Shoreland Permit Application. [Instructions for completing this form](#) are available on the shoreland program web page.

For the purposes of this worksheet, "Pre-Construction" impervious surface areas¹ means all human made impervious surfaces² currently in existence on the property, whether to be removed or to remain after the project is completed. "Post-Construction" impervious area means all impervious surfaces that will exist on the property upon completion of the project, including both new and any remaining pre-existing impervious surfaces. All answers shall be given in square feet.

CALCULATING THE IMPERVIOUS AREA WITHIN 250 FEET OF THE REFERENCE LINE			
	STRUCTURE DESCRIPTION	PRE-CONSTRUCTION IMPERVIOUS AREA	POST-CONSTRUCTION IMPERVIOUS AREA
PRIMARY STRUCTURE Including all <u>attached</u> decks and porches	<u>N/A</u> FT ²	<u>N/A</u> FT ²	<u>N/A</u> FT ²
ACCESSORY STRUCTURES All other impervious surfaces excluding lawn furniture, well heads, fences and septic systems	<u>N/A</u>	<u>N/A</u> FT ²	<u>N/A</u> FT ²
	_____	_____ FT ²	_____ FT ²
	_____	_____ FT ²	_____ FT ²
	_____	_____ FT ²	_____ FT ²
	_____	_____ FT ²	_____ FT ²
	_____	_____ FT ²	_____ FT ²
TOTAL:		(A) _____ FT ²	(B) _____ FT ²
Area of the lot located within 250 ft of reference line:			(C) <u>50.090</u>
Percentage of lot covered by pre-construction impervious area within 250 ft of the reference line: line: $[divide (a) by (c) \times 100]$			(D) <u>64.0</u> %
Percentage of lot to be covered by post-construction impervious area within 250 ft of the reference line upon completion of the project: $[divide (b) by (c) \times 100]$			(E) <u>63.7</u> %

¹ "Impervious surface area" as defined in Env-Wq 1402.15 means, for purposes of the impervious surface limitation specified in RSA 483-B:9, V(g), the sum total of the footprint of each impervious surface that is located within the protected shoreland.

² "Impervious Surface" as defined in RSA 483-B:4, VII-b means any modified surface that cannot effectively absorb or infiltrate water. Examples of impervious surfaces include, but are not limited to, roofs, and unless designed to effectively absorb or infiltrate water, decks, patios, and paved, gravel, or crushed stone driveways, parking areas, and walkways.

E. Project Need and Minimization & Avoidance

The Linden Street crossing over the Little River is a causeway like structure built in 1967 with a total length of 50 feet measured along the road. The river meanders upstream of the crossing and turns right as it flows through two Corrugated Metal Pipe (CMP) arch culverts, each with a 12.8-foot span and 8.3-foot rise. The CMP culverts are separated by 3.5 feet of fill with stone and cast-in-place concrete infill headwalls between the arches. The structure is listed in poor condition and is currently on the Municipal Red List of structures that require replacement. Heavy rusting over time has resulted in section loss of the structural metal pipe arches to the extent that holes and severe pitting can be observed in the lower section of the side walls along the water line.

The Court Street Culvert crosses the Little River approximately a half mile downstream of the Linden Street Culvert. The structure was built in 1965 and is of similar construction to the Linden Street crossing with one 14.1 by 8.75-foot and two 12.8 by 8.3-foot CMP culverts and a total length of 85 feet measured along the road. The sidewalk at the Court Street Culvert runs along the downstream (east) side of the roadway and is approximately 5 feet wide with granite curbing. Including the sidewalk, the roadway has an overall width of 39 feet. The Court Street Culvert is not presently on the Municipal Red List, however its condition is borderline and near Red List status. Despite the higher condition rating, the Court Street Culvert was observed by CMA Engineers to be in similar condition to the Red List Linden Street culvert. The Court Street Culvert is also currently classified as hydraulically deficient.

The Town is proposing to replace the Linden Street crossing in 2015 and the Court Street crossing in 2016 with single span bridges. The projects are being permitted together due to their geographic location and similar construction methods.

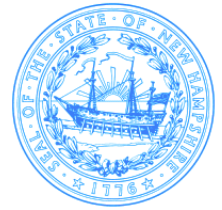
See Attachment A – Minor & Major 20 questions on the following page.



THE STATE OF NEW HAMPSHIRE
 DEPARTMENT OF ENVIRONMENTAL SERVICES
 LAND RESOURCES MANAGEMENT
WETLANDS BUREAU

29 Hazen Drive, PO Box 95, Concord, NH 03302-0095
 Phone: (603) 271-2147 Fax: (603) 271-6588

<http://des.nh.gov/organization/divisions/water/wetlands/index.htm>
 Permit Application Status: <http://des.nh.gov/onestop/index.htm>



PERMIT APPLICATION - ATTACHMENT A MINOR & MAJOR 20 QUESTIONS

Env-Wt 302.04 Requirements for Application Evaluation - For any major or minor project, the applicant shall demonstrate by plan and example that the following factors have been considered in the project's design in assessing the impact of the proposed project to areas and environments under the department's jurisdiction. Respond with statements demonstrating:

1. The need for the proposed impact.

Replacement of the culverts at Linden Street and Court Street is needed due to the deterioration of the culverts. Heavy rusting over time has resulted in section loss of the structural metal pipe arches to the extent that holes and severe pitting can be observed in the lower section of the side walls along the water line. The culverts were installed almost 50 years ago and have reached the end of their service life. Linden and Court Streets are critical access roads to downtown Exeter.

2. That the alternative proposed by the applicant is the one with the least impact to wetlands or surface waters on site.

Single span bridges are proposed at each crossing. These structures will restore the width of the river channel at each crossing. Removal of the existing culverts will require impacts to the existing road embankment, portions of which have been delineated as wetlands. Removal of the culverts and construction of the bridge abutments will require impacts to the river channel during construction. Construction of a single span bridge will allow the width of the river channel to be restored to match existing river channel widths. Restoring the width of the channel will increase hydraulic capacity and improve connectivity between the upstream and downstream sections of the Little River. Restoring the channel width will promote improved aquatic organism passage as well as wildlife passage on the river banks.

3. The type and classification of the wetlands involved.

Linden Street:

The channel portion of the wetland at the Linden Street crossing has been classified as a riverine, lower perennial system with an unconsolidated bottom (R2UB). The edges of the channel are bordered by dense palustrine emergent and scrub shrub wetland areas that are seasonally saturated or flooded (PEM/SS1E).

Court Street:

The upstream portion of the Court Street crossing has been classified as a palustrine emergent and aquatic bed system (PEM1/AB3F) that is semi-permanently flooded. The downstream portion of the crossing has been classified as riverine, lower perennial system that has an unconsolidated bottom (R2UB). (See report in Section O)

4. The relationship of the proposed wetlands to be impacted relative to nearby wetlands and surface waters.

The proposed wetlands to be impacted are all within or along the banks of the Little River. The Little River discharges to the Exeter River approximately 2,000 ft downstream of the Court Street crossing.

5. The rarity of the wetland, surface water, sand dunes, or tidal buffer zone area.

The wetlands identified at the Linden Street and Court Street crossings are typical for this area of New Hampshire.

6. The surface area of the wetlands that will be impacted.

**Linden Street: 435 sq. ft. to PEM/SS1E and 2,410 sq. ft. to R2UB
Court Street: 1050 sq. ft. to PEM/AB3F and 3,605 sq. ft. to R2UB.**

7. The impact on plants, fish and wildlife including, but not limited to:
- Rare, special concern species;
 - State and federally listed threatened and endangered species;
 - Species at the extremities of their ranges;
 - Migratory fish and wildlife;
 - Exemplary natural communities identified by the DRED-NHB; and
 - Vernal pools.

The existing Court Street crossing is within the vicinity of a documented American eel (*Anguilla rostrata*) population and documented Blanding's turtle (*Emydoidea blandingii*) locations. The American eel is listed as a State Special Concern species and the Blanding's turtle is a State Endangered species. The New Hampshire Fish & Game Department (NH F&G) was contacted to assess the potential for the proposed project to impact these species. NH F&G Nongame Department responded that they do not expect impacts to either species as a result of the project construction and noted that the full span crossing will be an improvement for wildlife passage. The NH F&G Marine Program requested further coordination regarding the construction schedule in order to limit impacts to diadromous fish.

8. The impact of the proposed project on public commerce, navigation and recreation.

The proposed project is expected to be a benefit to recreational users of the river. A public boat ramp is located downstream of the Court Street crossing. The full span crossing will allow greater access to the section of the Little River upstream of the Court Street crossing.

9. The extent to which a project interferes with the aesthetic interests of the general public. For example, where an applicant proposes the construction of a retaining wall on the bank of a lake, the applicant shall be required to indicate the type of material to be used and the effect of the construction of the wall on the view of other users of the lake.

The proposed project is not expected to interfere with the aesthetic interests of the general public. The majority of the public will interact with the crossings by travelling over the roadway and the proposed bridges will not be readily visible from above. It is expected that aesthetics of the proposed crossing will improve from vantage points upstream and downstream of the crossings since the further reaches of the river will now be visible beneath the full span of the bridge.

10. The extent to which a project interferes with or obstructs public rights of passage or access. For example, where the applicant proposes to construct a dock in a narrow channel, the applicant shall be required to document the extent to which the dock would block or interfere with the passage through this area.

The proposed project will not obstruct public rights of passage or access. The proposed crossings are replacement structures for existing culverts that are deteriorating and need to be replaced.

11. The impact upon abutting owners pursuant to RSA 482-A:11, II. For example, if an applicant is proposing to rip-rap a stream, the applicant shall be required to document the effect of such work on upstream and downstream abutting properties.

Construction of the proposed projects will require temporary construction rights of entry at all quadrants of the bridges to allow for installation of erosion control measures, removal of the existing structures, excavation for proposed structures and construction dewatering. An easement will also be required in the northwest quadrant of the Court Street crossing where an addition to the existing masonry retaining wall is proposed. The Town will secure all access rights and easements prior to construction of the crossing begins.

12. The benefit of a project to the health, safety, and well being of the general public.

The proposed project provides replacement structures for existing deteriorated structures. The replacement structures will provide for the continued, safe use of the roadway.

13. The impact of a proposed project on quantity or quality of surface and ground water. For example, where an applicant proposes to fill wetlands the applicant shall be required to document the impact of the proposed fill on the amount of drainage entering the site versus the amount of drainage exiting the site and the difference in the quality of water entering and exiting the site.

The proposed project is not expected to have an impact on the quantity or quality of the surface water. The full span crossings will improve the hydraulic capacity of both crossings. However, hydraulic modeling conducted for the project indicates that the water elevation of the Little River is ultimately controlled by the hydraulics of the Exeter River during large storm events.

14. The potential of a proposed project to cause or increase flooding, erosion, or sedimentation.

The proposed project will improve the hydraulic capacity of both crossings, decreasing the potential for upstream flooding. Appropriate sedimentation and erosion control practices will be implemented during construction to prevent migration of sediments from the construction site during construction. The proposed project includes the installation of rip rap on the embankment beneath the proposed bridges to prevent erosion.

15. The extent to which a project that is located in surface waters reflects or redirects current or wave energy which might cause damage or hazards.

The proposed project is not expected to reflect or redirect current or wave energy which might cause damage or hazards.

16. The cumulative impact that would result if all parties owning or abutting a portion of the affected wetland or wetland complex were also permitted alterations to the wetland proportional to the extent of their property rights. For example, an applicant who owns only a portion of a wetland shall document the applicant's percentage of ownership of that wetland and the percentage of that ownership that would be impacted.

The proposed project requires impacts to wetlands necessary to replace the existing deteriorated structures that have reached the end of their service life. The proposed project will result in an improved crossing configuration at both locations that will benefit the wetlands abutting the proposed project.

17. The impact of the proposed project on the values and functions of the total wetland or wetland complex.

The proposed project is expected to improve fish habitat, wildlife habitat and production export functions of the wetland system by accomodating the natural channel width of the Little River and improving aquatic passage.

18. The impact upon the value of the sites included in the latest published edition of the National Register of Natural Landmarks, or sites eligible for such publication.

A request for Project Review was submitted to the New Hampshire Division of Histrocial Resources (DHR) and they determined that impacts to archaeological or historical resources are not expected. Refer to Section G for documentation received from NHDHR.

19. The impact upon the value of areas named in acts of congress or presidential proclamations as national rivers, national wilderness areas, national lakeshores, and such areas as may be established under federal, state, or municipal laws for similar and related purposes such as estuarine and marine sanctuaries.

There will not be impacts to any of the above-mentioned sites.

20. The degree to which a project redirects water from one watershed to another.

The proposed project does not direct water from one watershed to another.

Additional comments

The wetlands upstream of the Linden Street crossing and between the Linden and Court Street crossings have been designated as Prime Wetlands. The proposed project is not expected to have a negative impact on these wetlands since it includes restoring the natural width of the channel and will improve aquatic and wildlife passage.

F. NHB Review

Separate NHB reviews were completed for each crossing. The NHB report for Linden Street did not report any rare species nor exemplary natural communities near the proposed bridge. The NHB report for Court Street identified two rare species known to exist in the vicinity of the project. The American eel (*Anguilla rostrata*), a species of State Special Concern, and the Blanding's turtle (*Emydoidea blandingii*), a State Endangered species, have both been observed downstream of the Linden Street and Court Street culverts, in the Exeter River corridor.

The New Hampshire Fish & Game Department (NH F&G) was contacted to assess the potential for the proposed project to impact these species. NH F&G Nongame Department responded that they do not expect impacts to either species as a result of the project construction. The NH F&G Marine Program requested further coordination regarding the construction schedule in order to limit impacts to diadromous fish. Diadromous fish are expected to migrate between March and June and emigrate between August and December. Construction of the proposed bridge is expected to commence in June, after school is out for the summer, and end in September. Therefore, bridge construction is not expected to impact diadromous fish migration.



To: Matthew Deane
380 Harvey Road
Manchester, NH 03103

Date: 5/30/2014

From: NH Natural Heritage Bureau

Re: Review by NH Natural Heritage Bureau of request dated 5/30/2014

NHB File ID: NHB14-2008

Applicant: Town of Exeter- Public Works

Location: Tax Map(s)/Lot(s):
Exeter

Project Description: Town of Exeter is proposing a culvert replacement

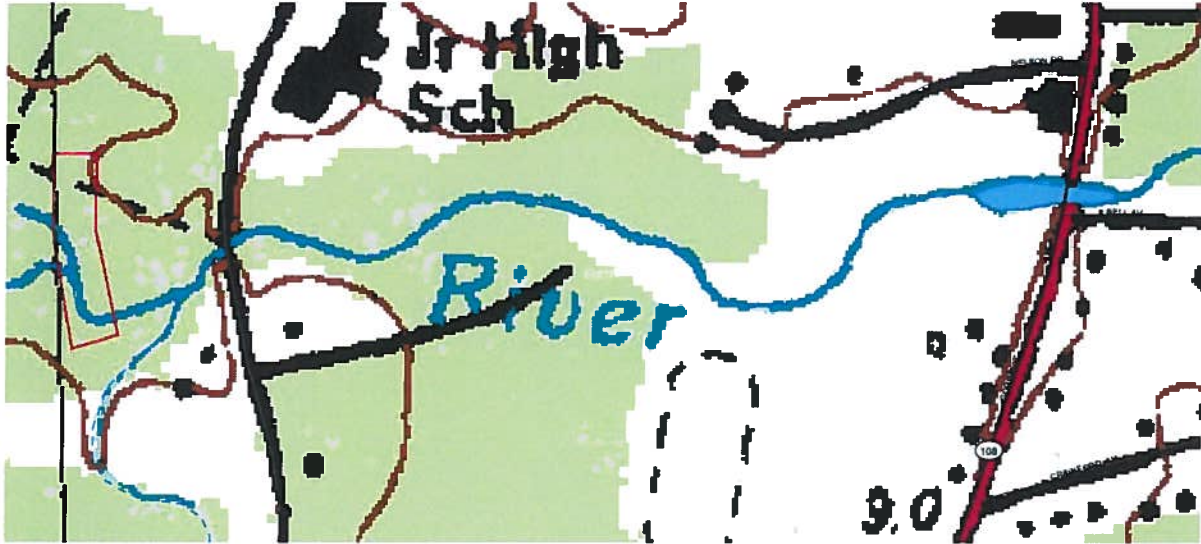
The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

This report is valid through 5/29/2015.



MAP OF PROJECT BOUNDARIES FOR NHB FILE ID: NHB14-2008



Memo



NH NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

To: Matthew Deane
380 Harvey Road
Manchester, NH 03103

From: Melissa Coppola, NH Natural Heritage Bureau

Date: 6/6/2014 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau

NHB File ID: NHB14-2033 Town: Exeter

Description: Culvert replacement

cc: Kim Tuttle

Location: 99 Court Street

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments:

Vertebrate species

	State ¹	Federal	Notes
American Eel (<i>Anguilla rostrata</i>)	SC	--	Contact the NH Fish & Game Dept (see below).
Blanding's Turtle (<i>Emydoidea blandingii</i>)	E	--	Contact the NH Fish & Game Dept (see below).

¹Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (*) indicates that the most recent report for that occurrence was more than 20 years ago.

Contact for all animal reviews: Kim Tuttle, NH F&G, (603) 271-6544.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
PO Box 1856
Concord NH 03302-1856

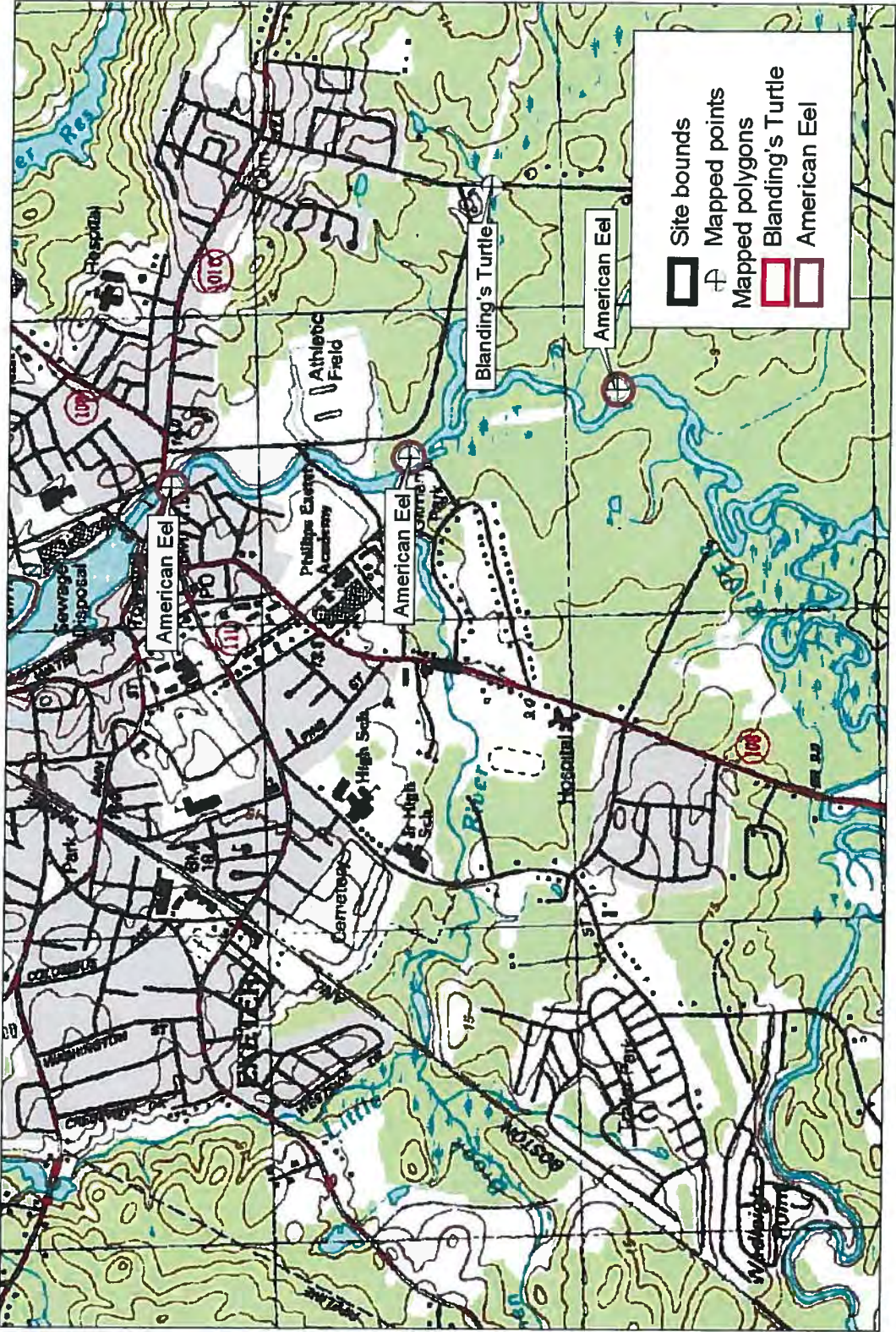
NHB14-2033



NH NATURAL HERITAGE BUREAU

Known locations of rare species and exemplary natural communities

Note: Mapped locations are not always exact. Occurrences that are not in the vicinity of the project are not shown.



*Historical record

1:18000

Valid for one year from this date 06 Jun 2014

New Hampshire Natural Heritage Bureau - Animal Record

American Eel (*Anguilla rostrata*)

Legal Status

Federal: Not listed
 State: SC

Conservation Status

Global: Apparently secure but with cause for concern
 State: Rare or uncommon

Description at this Location

Conservation Rank: Not ranked
 Comments on Rank:

Detailed Description: 2008: Area 13324: 15 observed.

General Area:

General Comments:

Management

Comments:

Location

Survey Site Name: Great Brook-Exeter River
 Managed By:

County: Rockingham

Town(s): Exeter

Size: 1.9 acres

USGS quad(s): Exeter (4207088)

Lat, Long: 425851N, 0705638W

Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2008: Exeter River

Dates documented

First reported: 2008-08-29

Last reported: 2008-08-29

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

American Eel (*Anguilla rostrata*)

Legal Status

Federal: Not listed
State: SC

Conservation Status

Global: Apparently secure but with cause for concern
State: Rare or uncommon

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2008: Area 13325: 9 observed.

General Area:

General Comments:

Management

Comments:

Location

Survey Site Name: Great Brook-Exeter River
Managed By: Gilman Park

County: Rockingham

Town(s): Exeter

Size: 1.9 acres

USGS quad(s): Exeter (4207088)

Lat, Long: 425826N, 0705634W

Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2008: Exeter River

Dates documented

First reported: 2008-08-29

Last reported: 2008-08-29

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

American Eel (*Anguilla rostrata*)**Legal Status**

Federal: Not listed
 State: SC

Conservation Status

Global: Apparently secure but with cause for concern
 State: Rare or uncommon

Description at this Location

Conservation Rank: Not ranked
 Comments on Rank:

Detailed Description: 2008: Area 13326: 13 observed.

General Area:

General Comments:

Management

Comments:

Location

Survey Site Name: Great Brook-Exeter River
 Managed By: Phillips Exeter Academy Land

County: Rockingham

Town(s): Exeter

Size: 1.9 acres

USGS quad(s): Exeter (4207088)

Lat, Long: 425804N, 0705625W

Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2008: Exeter River

Dates documented

First reported: 2008-08-29

Last reported: 2008-08-29

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

Blanding's Turtle (*Emydoidea blandingii*)

Legal Status

Federal: Not listed
State: Listed Endangered

Conservation Status

Global: Apparently secure but with cause for concern
State: Critically imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Good quality, condition and landscape context ('B' on a scale of A-D).
Comments on Rank:

Detailed Description: 2007: Area 11793: Female laying eggs.
General Area: 2007: Area 11793: Wetlands on both sides of the road.
General Comments:
Management
Comments:

Location

Survey Site Name: Great Meadows
Managed By: Phillips Exeter Academy Land

County: Rockingham
Town(s): Exeter
Size: .4 acres

USGS quad(s): Exeter (4207088)
Lat, Long:
Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2007: Area 11793: Shoulder of Drinkwater Road where it crosses the outlet stream of The Cove.

Dates documented

First reported: 2007-06-11
Last reported: 2007-06-11

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

From: Tracy Tarr
To: ["Tuttle, Kim"](#)
Subject: RE: Court Street Bridge Replacement - Little River, Exeter NHB14-2033
Date: Tuesday, June 24, 2014 10:27:00 AM
Attachments: [image001.jpg](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

Thanks for your coordination Kim! I will ask Cheri for specific time periods.

Tracy

Tracy L. Tarr, CWS, CWB, CESSWI
Assistant Project Manager
GZA GeoEnvironmental, Inc.
380 Harvey Road | Manchester, NH 03103

o: 603.232.8739 | c: 603.235.6992 | fax: 603.624.9463
tracy.tarr@gza.com | www.gza.com



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Follow us on:   

From: Tuttle, Kim [mailto:Kim.Tuttle@wildlife.nh.gov]
Sent: Tuesday, June 24, 2014 10:24 AM
To: Tracy Tarr
Subject: RE: Court Street Bridge Replacement - Little River, Exeter NHB14-2033

Tracy,

Below are some additional comments from NHFG Marine Division. As regards timing of the construction schedule, you should communicate directly with Marine Division about anadromous fish migration.

Regards,

Kim Tuttle

Certified Wildlife Biologist
NH Fish and Game
11 Hazen Drive
Concord, NH 03301
603-271-6544

I agree with Mike, as long as it is an open box concept or if not then we would want to be consulted with on the best design for fish and wildlife passage. We will also want to comment on timing as the construction schedule is being developed so construction doesn't affect fish migration and emigration periods.

Thanks, Kim.

Cheri Patterson
Supervisor of Marine Programs
NH Fish and Game Department
225 Main Street
Durham, NH 03824
(603)868-1095 – office
(603)868-3305 – fax

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From: Dionne, Michael
Sent: Tuesday, June 24, 2014 7:47 AM
To: Tuttle, Kim
Cc: Patterson, Cheri
Subject: RE: Court Street Bridge Replacement - Little River, Exeter

Kim,
Unless Cheri has something to add, I'm good with it. A full span in the 55' range sounds great for this location and it's a big improvement compared to the existing conditions. This should allow for restoration of the full channel width which should make passage by all species of fish much easier.

Mike Dionne
Marine Biologist

NH Fish and Game...*connecting you to life outdoors*

www.wildnh.com, www.facebook.com/nhfishandgame

From: Tuttle, Kim
Sent: Tuesday, June 24, 2014 8:36 AM
To: 'Tracy Tarr'
Subject: RE: Court Street Bridge Replacement - Little River, Exeter NHB14-2033

Tracy,

The NHFG Nongame and Endangered Species Program has reviewed NHB14-2033 for the proposed Court St. bridge replacement in Exeter. Three pipe arch culverts will be replaced with a clear span structure in the 55' range. The NHB database check indicated the following species in the vicinity of the project:

American Eel (*Anguilla rostrata*) SC --
Blanding's Turtle (*Emydoidea blandingii*) E --
Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern

We do not expect impacts to either species as a result of the project construction. Avoid the use of welded plastic or 'biodegradable' erosion control netting at this job site. There are numerous documented cases of snakes and other wildlife, including black racers and eastern hognose snakes, being trapped and killed in erosion control netting. Several 'wildlife friendly' options such as woven organic material (e.g., coco matting) are commercially available. Please feel free to call me if you have any questions regarding this review.

Sincerely,

Kim Tuttle
Certified Wildlife Biologist
NH Fish and Game
11 Hazen Drive
Concord, NH 03301
603-271-6544

From: Tracy Tarr [<mailto:Tracy.Tarr@gza.com>]
Sent: Monday, June 23, 2014 12:14 PM
To: Tuttle, Kim
Subject: Court Street Bridge Replacement - Little River, Exeter

Hi Kim,

We are hoping to get Fish and Game's review for a bridge replacement on Court Street in Exeter (see attached locus and photos. The existing crossing consists of three pipe arch culverts (2, 12'-

10", 1, 14'-1'). The engineer, CMA Engineers, is currently evaluating a replacement structure in the 55' range. They will complete a Hydrologic and Hydraulic Study to determine the exact appropriate sizing but the intent is to replace the three separate arch culverts with one large span.

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Thanks in advance for your input!

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Tracy L. Tarr, CWS, CWB, CESSWI

Assistant Project Manager

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380 Harvey Road | Manchester, NH 03103

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tracy.tarr@gza.com | www.gza.com



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For information about GZA GeoEnvironmental, Inc. and its services, please visit our website at www.gza.com.

From: [Patterson, Cheri](#)
To: [Tracy Tarr](#)
Cc: [Dionne, Michael](#)
Subject: RE: Court Street Bridge Replacement - Little River, Exeter NHB14-2033
Date: Tuesday, June 24, 2014 3:25:29 PM
Attachments: [image001.jpg](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

Tracy,

Mike and I will be looking at the site in the next couple of weeks and will get back to you, but we would need an idea of the construction schedule as some of the construction may not affect fish passage or habitat depending on the timing. Essentially diadromous fish will be running from March-June and emigrating anywhere from August through December. So if we had an idea of your construction phases we can help you with the timing.

Cheri Patterson
Supervisor of Marine Programs
NH Fish and Game Department
225 Main Street
Durham, NH 03824
(603)868-1095 – office
(603)868-3305 – fax

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Sent: Tuesday, June 24, 2014 12:35 PM
To: Patterson, Cheri
Subject: FW: Court Street Bridge Replacement - Little River, Exeter NHB14-2033

Hi Cheri,

Thanks very much for your input on the Court Street Bridge Replacement Project (sent via Kim Tuttle). Can you give me specific seasonal recommendations for American eel? I will send those along to the project engineer who is heading up environmental permitting.

Thanks in advance!

Tracy

Tracy L. Tarr, CWS, CWB, CESSWI

Assistant Project Manager

GZA GeoEnvironmental, Inc.
380 Harvey Road | Manchester, NH 03103

o: 603.232.8739 | c: 603.235.6992 | fax: 603.624.9463
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NH Fish and Game
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Concord, NH 03301
603-271-6544

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Mike Dionne
Marine Biologist

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Thanks in advance for your input!

Tracy

Tracy L. Tarr, CWS, CWB, CESSWI
Assistant Project Manager

G. NH PGP Requirements



**US Army Corps
of Engineers**®
New England District

**New Hampshire Programmatic General Permit (PGP)
Appendix B - Corps Secondary Impacts Checklist
(for inland wetland/waterway fill projects in New Hampshire)**

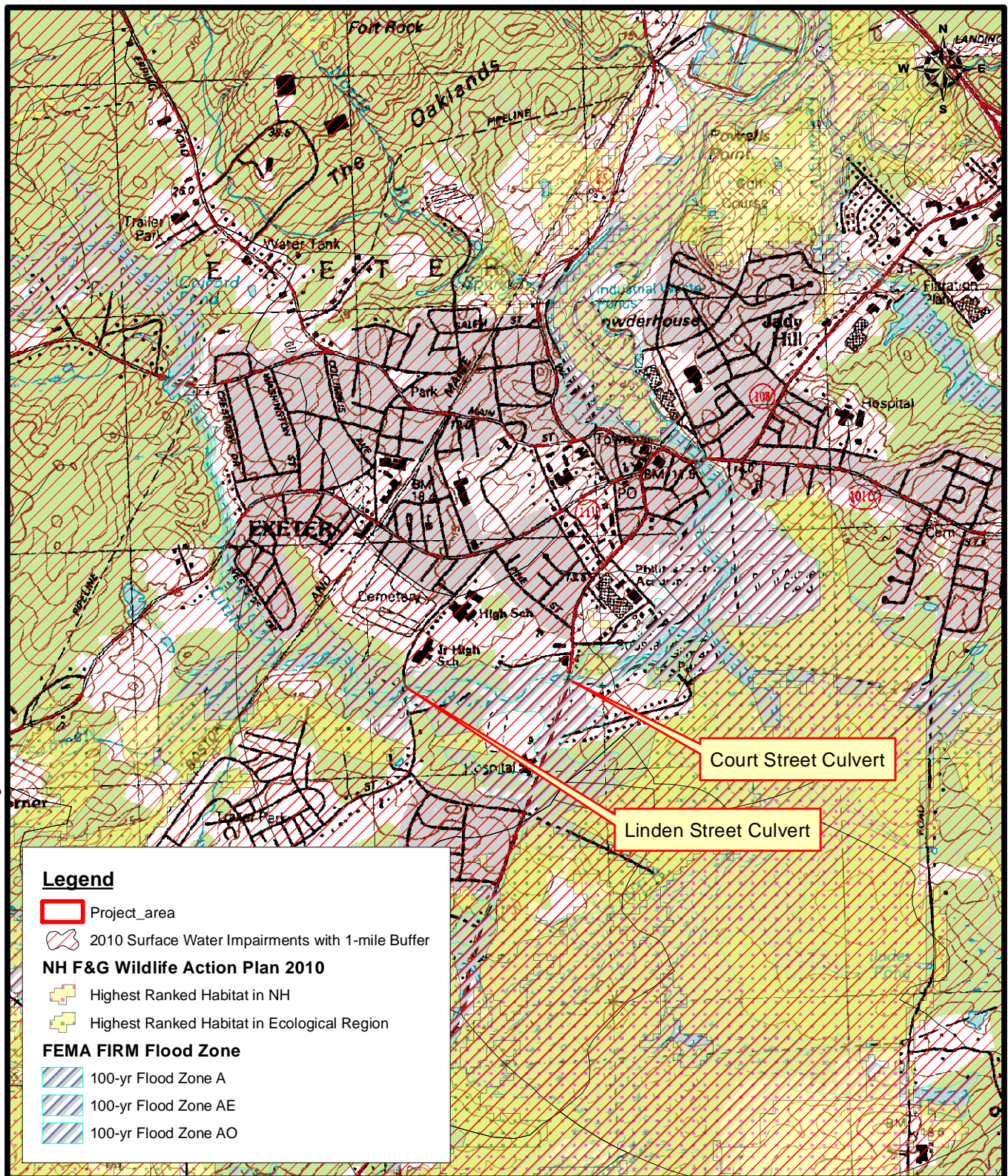
1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to “work” include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See PGP, GC 5, regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*	✓	
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	✓	
2.2 Are there proposed impacts to SAS, shellfish beds, special wetlands and vernal pools (see PGP, GC 26 and Appendix A)? Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) website, www.nhnaturalheritage.org , specifically the book Natural Community Systems of New Hampshire .		✓
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	✓	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		✓
2.5 The overall project site is more than 40 acres.		✓
2.6 What is the size of the existing impervious surface area?	32,050 sq ft	
2.7 What is the size of the proposed impervious surface area?	31,920 sq ft	
2.8 What is the % of the impervious area (new and existing) to the overall project site?	64%	
3. Wildlife	Yes	No
3.1 Has the NHB determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require a NHB determination.)	✓	
3.2 Would work occur in any area identified as either “Highest Ranked Habitat in N.H.” or “Highest Ranked Habitat in Ecological Region”? (These areas are colored magenta and green, respectively, on NH Fish and Game’s map, “2010 Highest Ranked Wildlife Habitat by Ecological Condition.”) Map information can be found at: <ul style="list-style-type: none"> • PDF: www.wildlife.state.nh.us/Wildlife/Plan/highest_ranking_habitat.htm. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html. 		✓

3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		✓
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		✓
3.5 Are stream crossings designed in accordance with the PGP, GC 21?	✓	
4. <u>Flooding/Floodplain Values</u>	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?	✓	
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?	N/A	
5. <u>Historic/Archaeological Resources</u>		
For a minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) shall be sent to the NH Division of Historical Resources as required on Page 5 of the PGP**	✓	

*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.

** If project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law..



Please mail 2 copies of the completed form and required material to:

Cultural Resources Staff
Bureau of Environment
NH Department of Transportation
7 Hazen Drive
Concord, NH 03302

DHR Use Only	6109
R&C #	
Log In Date	9/10/14
Response Date	___/___/___
Sent Date	___/___/___

Request for Project Review by the New Hampshire Division of Historical Resources for **Transportation** Projects

- This is a new submittal.
 This is additional information relating to DHR Review and Compliance (R&C)#:

RECEIVED
BUREAU OF ENVIRONMENT

GENERAL PROJECT INFORMATION	
DOT Project Name & Number	SEP 05 2014
Brief Descriptive Project Title Court & Linden Street Culvert Replacement	NH DEPARTMENT OF TRANSPORTATION
Project Location Court Street & Linden Street (over the Little River)	
City/Town Exeter	
Lead Federal Agency and Contact <i>(if applicable)</i> <i>(Agency providing funds, licenses, or permits)</i>	
Permit Type and Permit or Job Reference #	
DOT Environmental Manager <i>(if applicable)</i>	
PROJECT SPONSOR INFORMATION	
Project Sponsor Name Town of Exeter Public Works Department	
Mailing Address 13 Newfields Road Phone Number 603-773-6157	
City Exeter State NH Zip 03833 Email pvlasic@exeternh.gov	
CONTACT PERSON TO RECEIVE RESPONSE	
Name/Company Britt Audet, P.E. CMA Engineers, Inc.	
Mailing Address 35 Bow Street Phone Number 6034316196	
City Portsmouth State NH Zip 03801 Email baudet@cmaengineers.com	

This form is updated periodically. Please download the current form at <http://www.nh.gov/nhdhr/review>. Please refer to the Request for Project Review for Transportation Projects Instructions for direction on completing this form. Submit 2 copies of this project review form for each project for which review is requested. Include 1 self-addressed stamped envelope to expedite review response. Project submissions will not be accepted via facsimile or e-mail. This form is required. Review request form must be complete for review to begin. Incomplete forms will be sent back to the applicant without comment. Please be aware that this form may only initiate consultation. For some projects, additional information will be needed to complete the Section 106 review. All items and supporting documentation submitted with a review request, including photographs and publications, will be retained by the DOT and the DHR as part of its review records. Items to be kept confidential should be clearly identified. For questions regarding the DHR review process and the DHR's role in it, please visit our website at: <http://www.nh.gov/nhdhr/review> or contact the R&C Specialist at christina.st.louis@dcr.nh.gov or 603.271.3558.

PROJECTS CANNOT BE PROCESSED WITHOUT THIS INFORMATION

Project Boundaries and Description

- Attach the relevant portion of a 7.5' USGS Map (photocopied or computer-generated) *indicating the proposed area of potential effect (APE)*. (See RPR for Transportation Projects Instructions and R&C FAQs for guidance. Note that the APE is subject to approval by lead federal agency and SHPO.)
- Attach a detailed narrative description of the proposed project.
- Attach current engineering plans with tax parcel, landscape, and building references, and areas of proposed excavation, if available.
- Attach photos of the project area/APE with photo key (overview of project location and area adjacent to project location, and specific areas of proposed impacts and disturbances.) (Blank photo logs are available on the DHR website. Informative photo captions can be used in place of a photo log.)
- A DHR file review must be conducted to identify properties within or adjacent to the APE. Provide file review results in **Table 1**. (Blank table forms are available on the DHR website.)
File review conducted on 08/20/2014.*

**The DHR recommends that all survey/National Register nomination forms and their Determination of Eligibility (green) sheets are copied for your use in project development.*

Architecture

Are there any buildings, structures (bridges, walls, culverts, etc.) objects, districts or landscapes within the APE? Yes No

If no, skip to Archaeology section. If yes, submit all of the following information:

- Attach completed **Table 2**.
- Photographs of *each* resource or streetscape located within the APE. Add to the photo key and photo log noted above. (Digital photographs are accepted. All photographs must be clear, crisp and focused.)
- Copies of National Register boundary (listed or eligible) mapping, and add National Register boundaries for listed and eligible properties to the 7.5' USGS project map (if applicable).

Archaeology

Does the proposed undertaking involve ground-disturbing activity? Yes No
If yes, submit all of the following information:

- Description of current and previous land use and disturbances.
- Available information concerning known or suspected archaeological resources within the project area (such as cellar holes, wells, foundations, dams, etc.)

Please note that for many projects an architectural and/or archaeological survey or other additional information may be needed to complete the Section 106 process.

AGENCY COMMENT

This Space for DOT and Division of Historical Resources Use Only

Sent to DHR; Authorized DOT Signature: JE Date: 9/8/14

- Insufficient information to initiate review.
- Additional information is needed in order to complete review.

Comments: No archaeology issues

No above-ground inventory is necessary at this time per information provided. Consult with property owners surrounding each project APE regarding construction or other impacts to their properties, some of which may be historic.

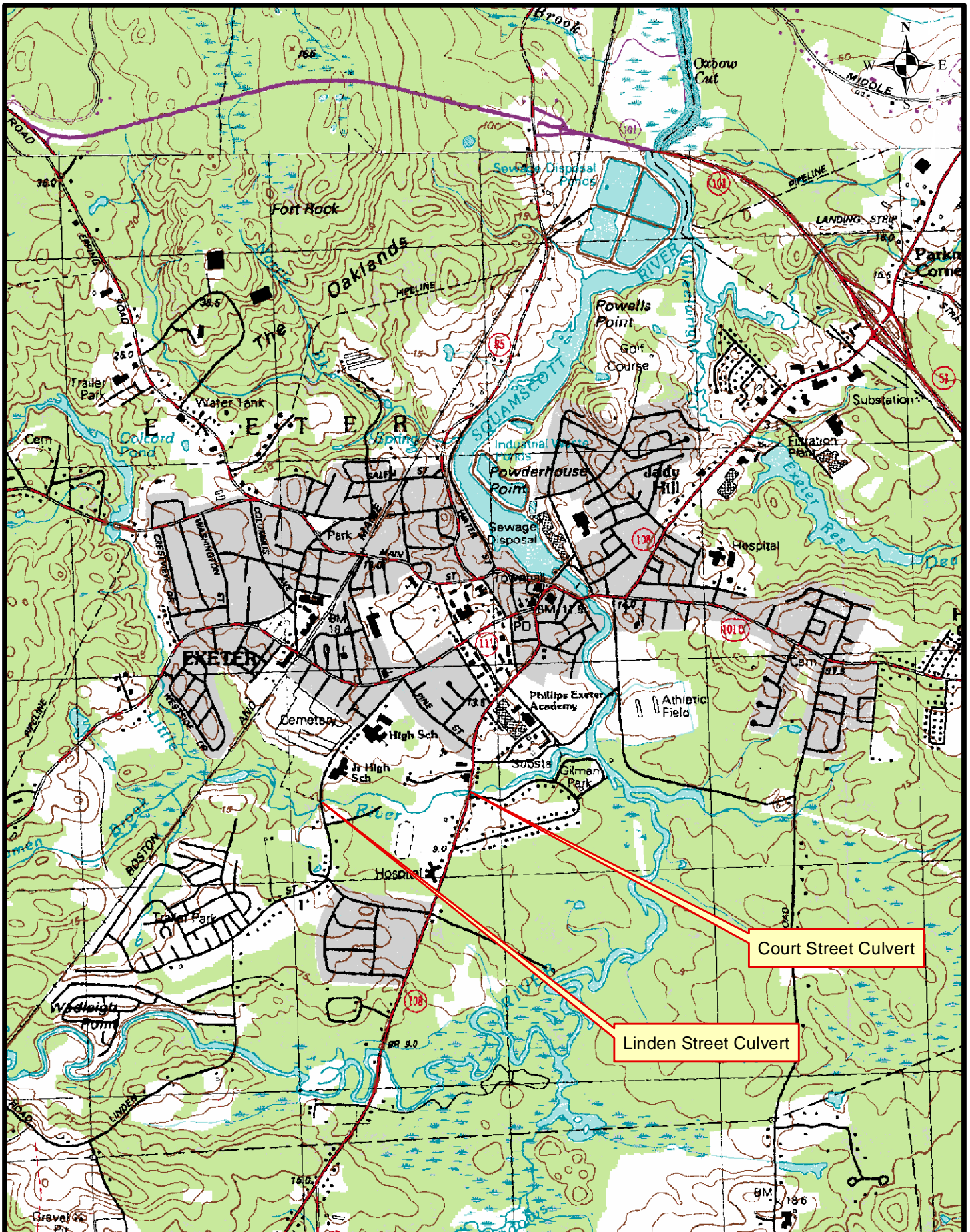
If plans change or resources are discovered in the course of this project, you must contact the Division of Historical Resources as required by federal law and regulation.

Authorized DHR Signature: Laura Black Date: Sept 12, 2014

H. Designated River Check

The Little River discharges to the Exeter River, which is a Designated River. However, the proposed projects are located more than one quarter of a mile from the Exeter River.

I. USGS Map



Court Street Culvert

Linden Street Culvert

0 2,000 Feet

Linden Street & Court Street
Culvert Replacement Project
Exeter, NH₄₀

J. Photographs

All photographs taken July 30, 2014.



Photo 1: Linden Street – Approach from the South



Photo 2: Linden Street – Approach from the North



Photo 3: Linden Street Culvert (from upstream)



Photo 4: Linden Street Culvert (looking downstream)



Photo 5: Court Street Culvert approach (from south)



Photo 6: Court Street Culvert Approach (from north)



Photo 7: Court Street Culvert (upstream inlet)



Photo 8: Court Street Culvert (from downstream)

See additional photographs provided in wetlands delineation report in Section O.

K. Plans

Town of Exeter, New Hampshire

Court and Linden Street

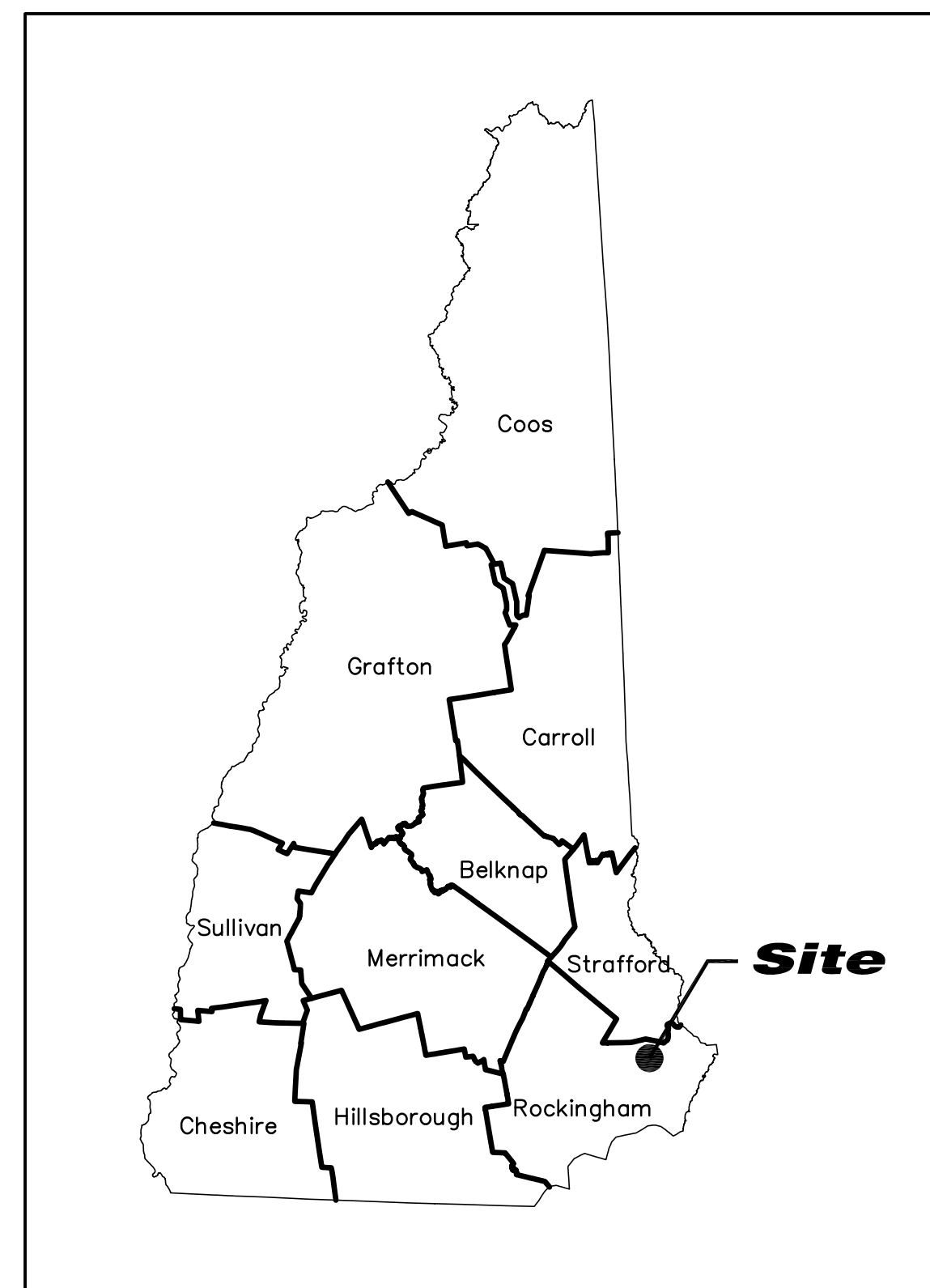
Little River Bridge Replacement

Wetland Permit Plans

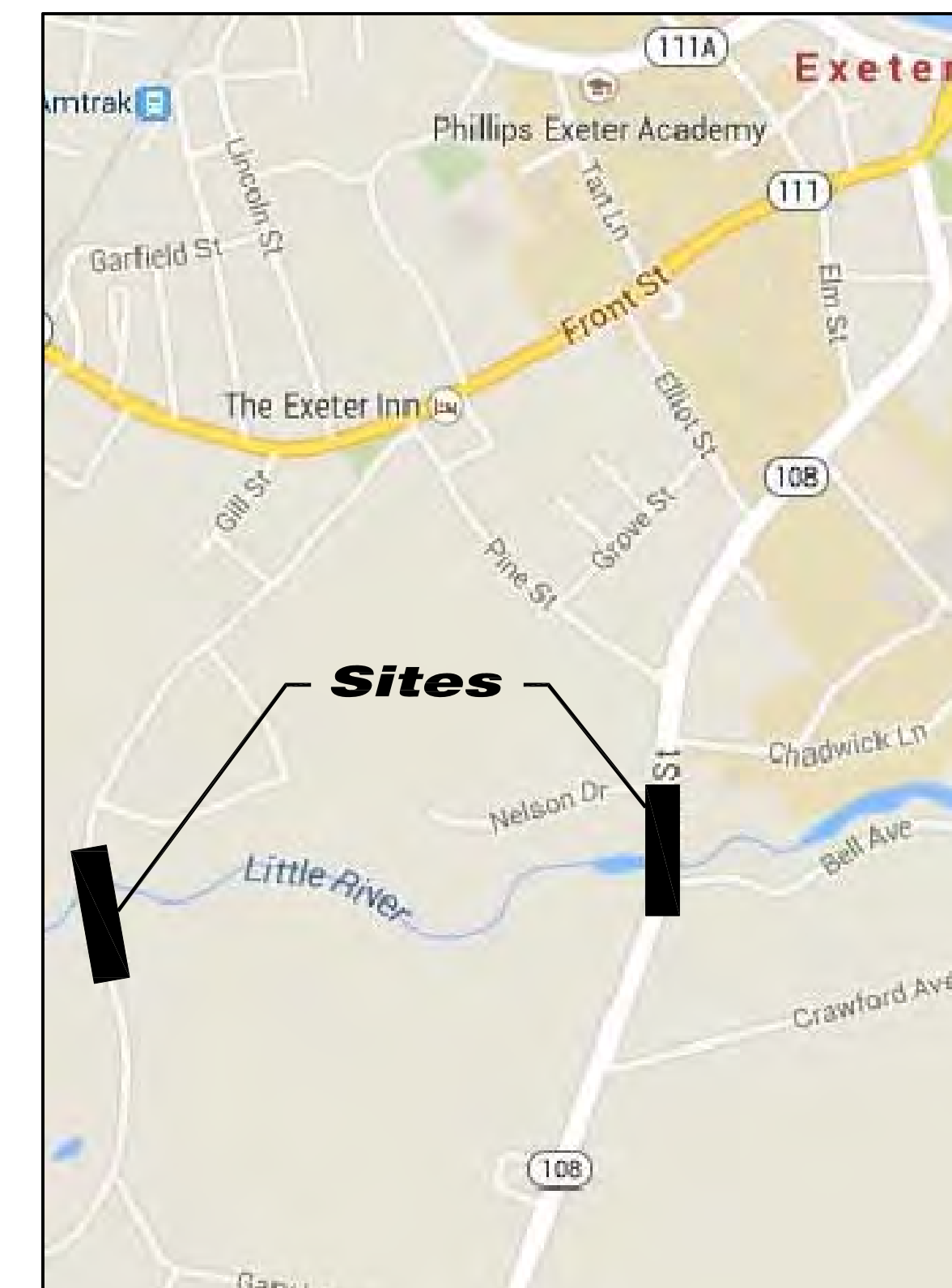
November 2014

Sheet Index

Sheet Number	Sheet Title
--	TITLE SHEET
2	NOTES AND LEGEND
3	LINDEN STREET EXISTING CONDITIONS PLAN
4	COURT STREET EXISTING CONDITIONS PLAN
5-6	GENERAL PLAN AND PROFILE
7	TYPICAL SECTIONS
8-11	BORING LOGS
12	EROSION CONTROL DETAILS



Locus Plan



Project Locations

Prepared For:
Town of Exeter
13 Newfields Road
Exeter, New Hampshire 03833

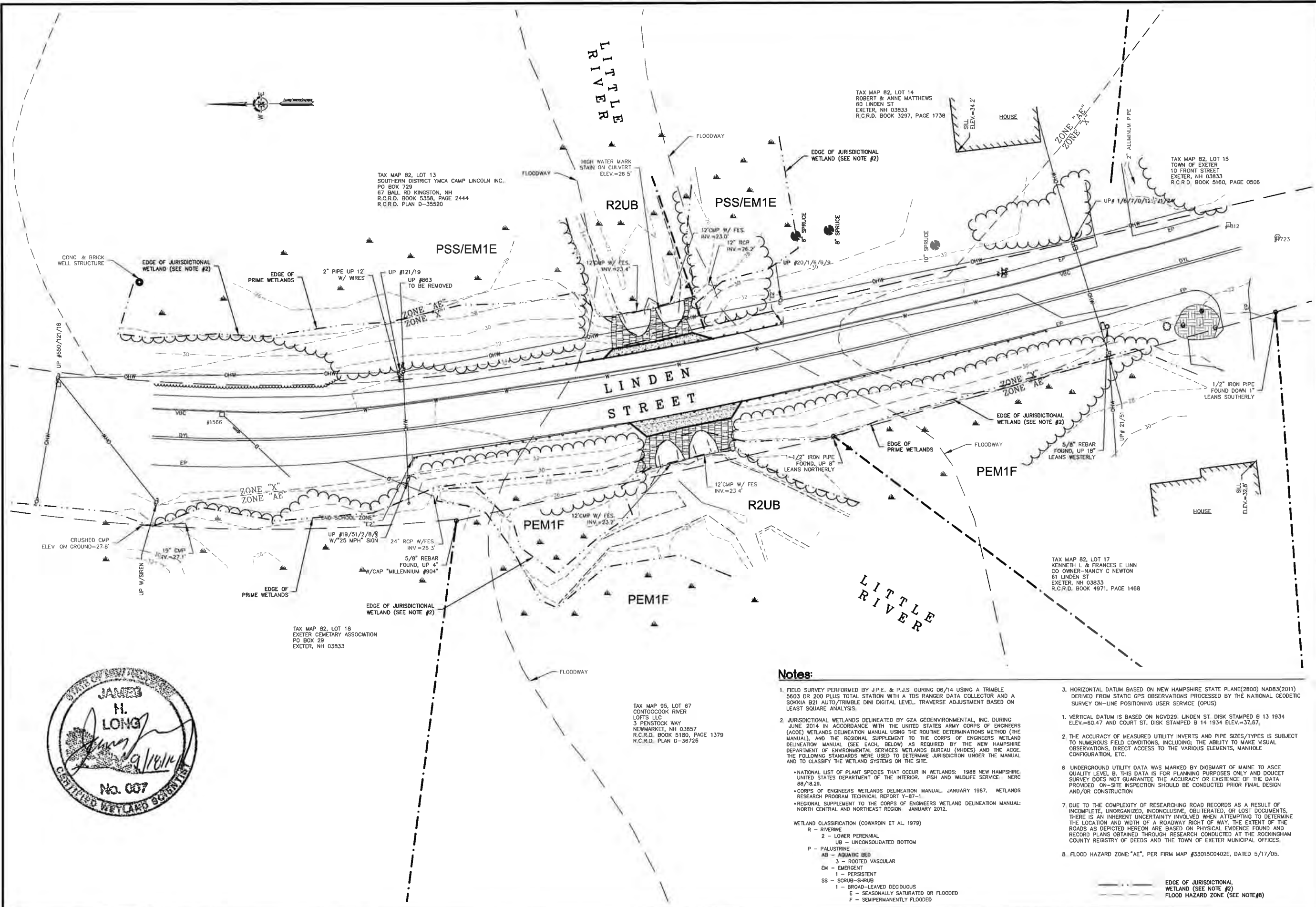
Prepared By:

CMA
 ENGINEERS
 CIVIL/ENVIRONMENTAL ENGINEERS
 35 Bow Street
 Portsmouth, New Hampshire 03801
 Phone: 603/431-6196
 Fax: 603/431-5376

Langer Place
 55 South Commercial Street
 Manchester, New Hampshire 03101
 Phone: 603/627-0708
 Fax: 603/627-0746

10 Free Street
 Portland, Maine 04101
 Phone: 207/541-4223
 Fax: 207/541-4225

THESE PLANS HAVE BEEN
 PHOTOGRAPHICALLY REDUCED TO
 APPROXIMATELY HALF SCALE



Notes:

- FIELD SURVEY PERFORMED BY J.P.E. & P.J.S. DURING 06/14 USING A TRIMBLE 5603 DR 200 PLUS TOTAL STATION WITH A TDS RANGER DATA COLLECTOR AND A SOKKIA B21 AUTO/TRIMBLE DMI DIGITAL LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.
 - JURISDICTIONAL WETLANDS DELINEATED BY GZA GEOENVIRONMENTAL, INC. DURING JUNE 2014 IN ACCORDANCE WITH THE UNITED STATES ARMY CORPS OF ENGINEERS (ACEC) WETLANDS DELINEATION MANUAL USING THE ROUTINE DETERMINATIONS METHOD (THE MANUAL), AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (SEE EACH BELOW) AS REQUIRED BY THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES WETLANDS BUREAU (WHDES) AND THE ACEC. THE FOLLOWING STANDARDS WERE USED TO DETERMINE JURISDICTION UNDER THE MANUAL AND TO CLASSIFY THE WETLAND SYSTEMS ON THE SITE.
 - NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: 1988 NEW HAMPSHIRE, UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, NERC 88/18.29.
 - CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, JANUARY 1987, WETLANDS RESEARCH PROGRAM TECHNICAL REPORT 1-87-1.
 - REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION, JANUARY 2012.
 - HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE(2800) NAD83(2011) DERIVED FROM STATIC GPS OBSERVATIONS PROCESSED BY THE NATIONAL GEODETIC SURVEY ON-LINE POSITIONING USER SERVICE (OPUS)
1. VERTICAL DATUM IS BASED ON NGVD29. LINDEN ST. DISK STAMPED B 13 1934 ELEV.=60.47 AND COURT ST. DISK STAMPED B 14 1934 ELEV.=37.67.
2. THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES/TYPES IS SUBJECT TO NUMEROUS FIELD CONDITIONS, INCLUDING: THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS, MANHOLE CONFIGURATION, ETC.
6. UNDERGROUND UTILITY DATA WAS MARKED BY DIGSMART OF MAINE TO ASCE QUALITY LEVEL B. THIS DATA IS FOR PLANNING PURPOSES ONLY AND DOES NOT GUARANTEE THE ACCURACY OR EXISTENCE OF THE DATA PROVIDED. ON-SITE INSPECTION SHOULD BE CONDUCTED PRIOR TO FINAL DESIGN AND/OR CONSTRUCTION.
7. DUE TO THE COMPLEXITY OF RESEARCHING ROAD RECORDS AS A RESULT OF INCOMPLETE, UNORGANIZED, INCONCLUSIVE, OBLITERATED, OR LOST DOCUMENTS, THERE IS AN INHERENT UNCERTAINTY INVOLVED WHEN ATTEMPTING TO DETERMINE THE LOCATION AND WIDTH OF A ROADWAY RIGHT OF WAY. THE EXTENT OF THE ROADS AS DEPICTED HEREON ARE BASED ON PHYSICAL EVIDENCE FOUND AND RECORD PLANS OBTAINED THROUGH RESEARCH CONDUCTED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AND THE TOWN OF EXETER MUNICIPAL OFFICES.
8. FLOOD HAZARD ZONE: "AE", PER FIRM MAP #33015C0402E, DATED 5/17/05.
- WETLAND CLASSIFICATION (COWARDIN ET AL 1979)
- R - RIVERINE
 - 2 - LOWER PERENNIAL
 - UB - UNCONSOLIDATED BOTTOM
 - P - PALUSTRINE
 - AB - AQUATIC BED
 - 3 - ROOTED VASCULAR
 - EM - EMERGENT
 - 1 - PERSISTENT
 - SS - SCRUB-SCRUB
 - 1 - BROAD-LEAVED DECIDUOUS
 - E - SEASONALLY SATURATED OR FLOODED
 - F - SEMIPERMANENTLY FLOODED
- EDGE OF JURISDICTIONAL WETLAND (SEE NOTE #2)
 FLOOD HAZARD ZONE (SEE NOTE #8)

no.	1	WETLANDS PERMIT PLANS	revision	11/7/14	JLG
date	Aug. 2014	project no.	923	file name:	923-Wetlands-SCP.dwg
designed by:	BEA	drawn by:	JLG	approved by:	JLG
scale:	1" = 20'				
date	Aug. 2014	project no.	923	file name:	923-Wetlands-SCP.dwg
designed by:	BEA	drawn by:	JLG	approved by:	JLG
scale:	1" = 20'				
drawing no.	3				
sheet:	3 of 12				

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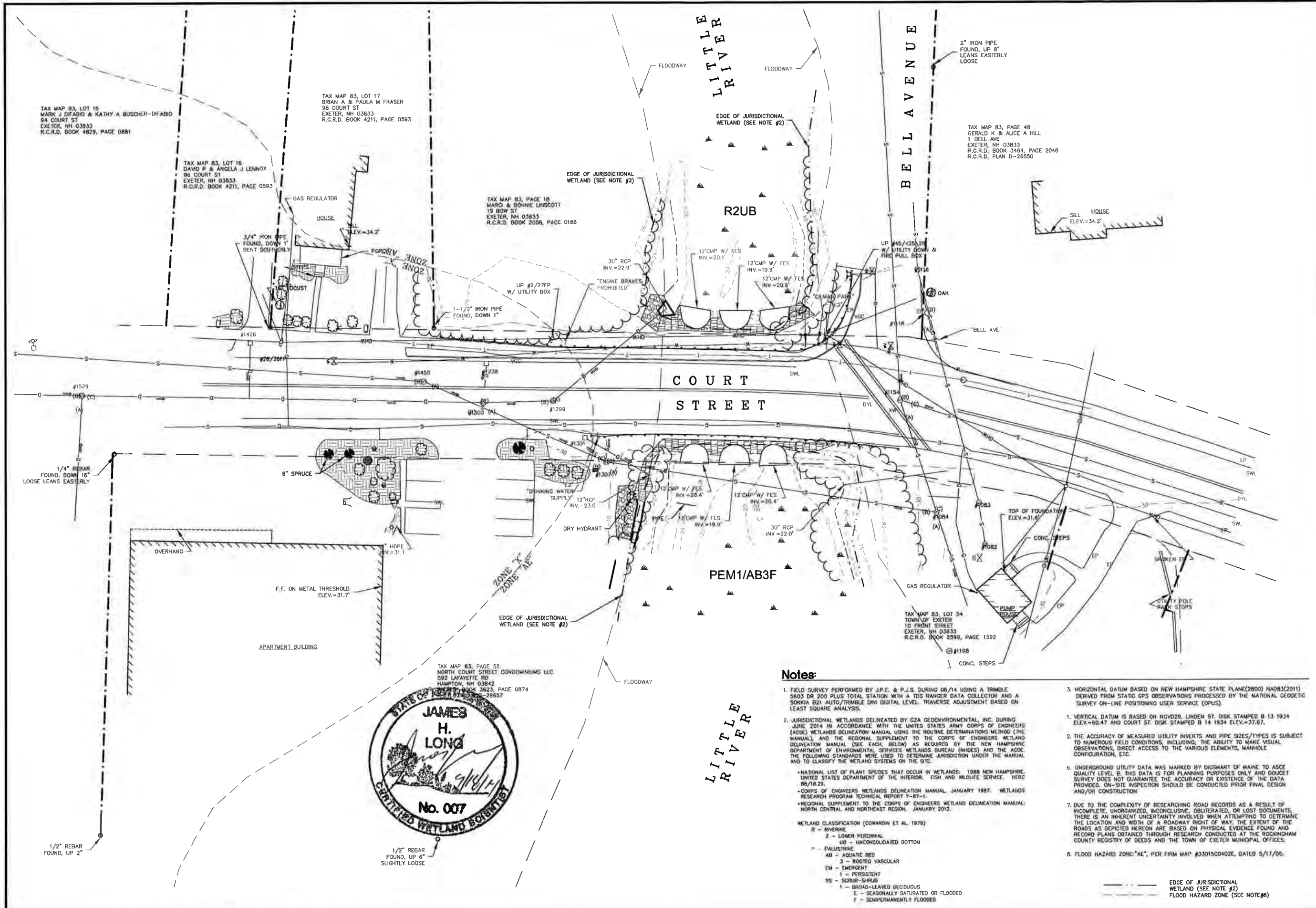
10 Free Street
 Portland, Maine 04101
 207/541-4223
 www.cmaengineers.com

35 Bow Street
 Portsmouth, NH 03801
 603/431-9198
 info@cmaengineers.com



Town of Exeter
Linden & Court Street Bridge Replacement

Wetlands Application Plan
Linden Street
Existing Conditions Plan



Notes:

- FIELD SURVEY PERFORMED BY J.P.E. & P.J.S. DURING 06/14 USING A TRIMBLE 5603 DR 200 PLUS TOTAL STATION WITH A TDS RANGER DATA COLLECTOR AND A SOKKIA B21 AUTO/TRIMBLE DMM DIGITAL LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.
 - JURISDICTIONAL WETLANDS DELINEATED BY GZA GEOTECHNICAL, INC. DURING JUNE 2014 IN ACCORDANCE WITH THE UNITED STATES ARMY CORPS OF ENGINEERS (ACOE) WETLANDS DELINEATION MANUAL USING THE ROUTINE DETERMINATIONS METHOD (THE MANUAL), AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (SEE EACH, BELOW) AS REQUIRED BY THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES WETLANDS BUREAU (NHDES) AND THE ACOE. THE FOLLOWING STANDARDS WERE USED TO DETERMINE JURISDICTION UNDER THE MANUAL AND TO CLASSIFY THE WETLAND SYSTEMS ON THE SITE.
 - NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: 1988 NEW HAMPSHIRE, UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, NERC 88/18.29.
 - CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, JANUARY 1987. WETLANDS RESEARCH PROGRAM TECHNICAL REPORT Y-87-1.
 - REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION, JANUARY 2012.
 - HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE(2800) NAD83(2011) DERIVED FROM STATIC GPS OBSERVATIONS PROCESSED BY THE NATIONAL GEODETIC SURVEY ON-LINE POSITIONING USER SERVICE (OPUS).
 - VERTICAL DATUM IS BASED ON NGVD29, LINDEN ST. DISK STAMPED B 13 1934 ELEV.=60.47 AND COURT ST. DISK STAMPED B 14 1934 ELEV.=37.67.
 - UNDERGROUND UTILITY DATA WAS MARKED BY ENDSMART OF MAINE TO ASSESS QUALITY LEVEL B. THIS DATA IS FOR PLANNING PURPOSES ONLY AND DOES NOT GUARANTEE THE ACCURACY OR EXISTENCE OF THE DATA PROVIDED. ON-SITE INSPECTION SHOULD BE CONDUCTED PRIOR TO FINAL DESIGN AND/OR CONSTRUCTION.
 - DUE TO THE COMPLEXITY OF RESEARCHING ROAD RECORDS AS A RESULT OF INCOMPLETE, UNORGANIZED, INCONCLUSIVE, OBLITERATED, OR LOST DOCUMENTS, THERE IS AN INHERENT UNCERTAINTY INVOLVED WHEN ATTEMPTING TO DETERMINE THE LOCATION AND WIDTH OF A ROADWAY RIGHT OF WAY. THE EXTENT OF THE ROADS AS DEPICTED HEREON ARE BASED ON PHYSICAL EVIDENCE FOUND AND RECORD PLANS OBTAINED THROUGH RESEARCH CONDUCTED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AND THE TOWN OF EXETER MUNICIPAL OFFICES.
 - FLOOD HAZARD ZONE: "AE", PER FIRM MAP #33015C0402E, DATED 5/17/05.
- WETLAND CLASSIFICATION (COWARD ET AL. 1979)
- R - RIVERSINE
 2 - LOWER PERENNIAL
 UB - UNCONSOLIDATED BOTTOM
- P - PALUSTRINE
 AB - AQUATIC BED
 3 - ROOTED VASCULAR
 EM - EMERGENT
 1 - PERSISTENT
 SS - SCRUB-SHRUB
 1 - BROAD-LEAVED DECIDUOUS
 E - SEASONALLY SATURATED OR FLOODED
 F - SEMIPERMANENTLY FLOODED
- EDGE OF JURISDICTIONAL WETLAND (SEE NOTE #2)
 FLOOD HAZARD ZONE (SEE NOTE #8)

revision	no	date	by
1	1	11/7/14	JLG
WETLAND PERMIT PLANS			
<p>designed by: BEA drawn by: BEA approved by: JLG</p> <p>date: Aug. 2014 project no: 923 file name: 923-Wetland-ECP.dwg scale: 1" = 20'</p>			
<p>Town of Exeter Linden & Court Street Bridge Replacement</p> <p>Wetlands Application Plan Court Street Existing Conditions Plan</p>			
drawing no: 4			
sheet: 4 of 12			

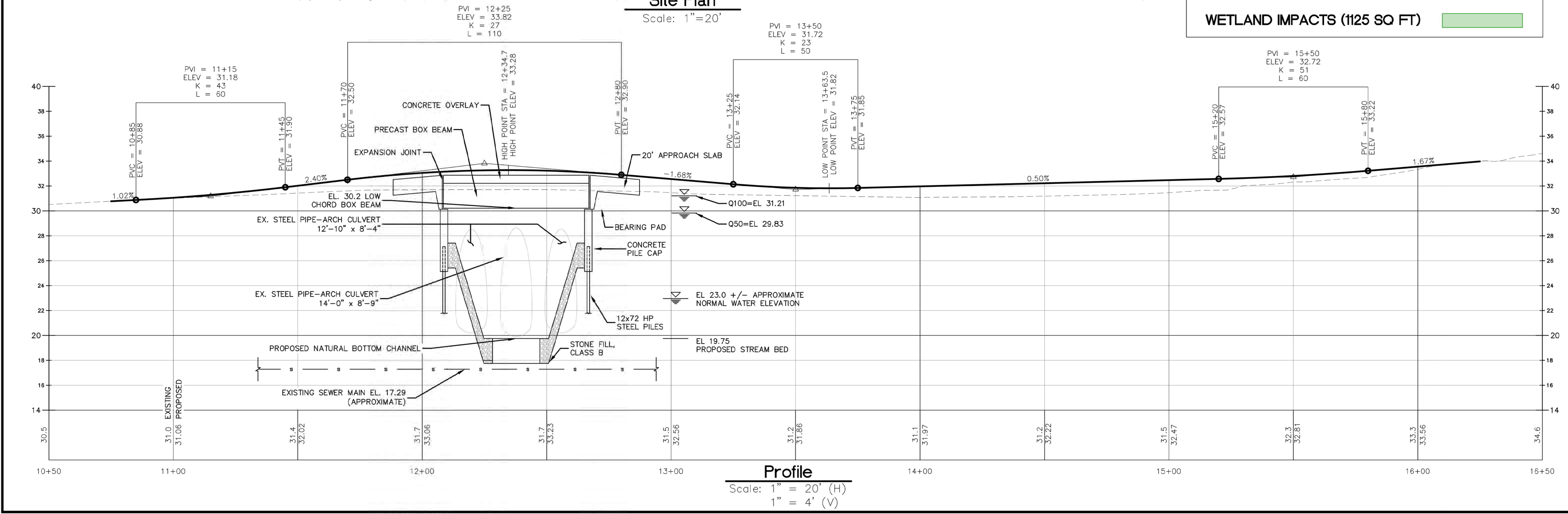
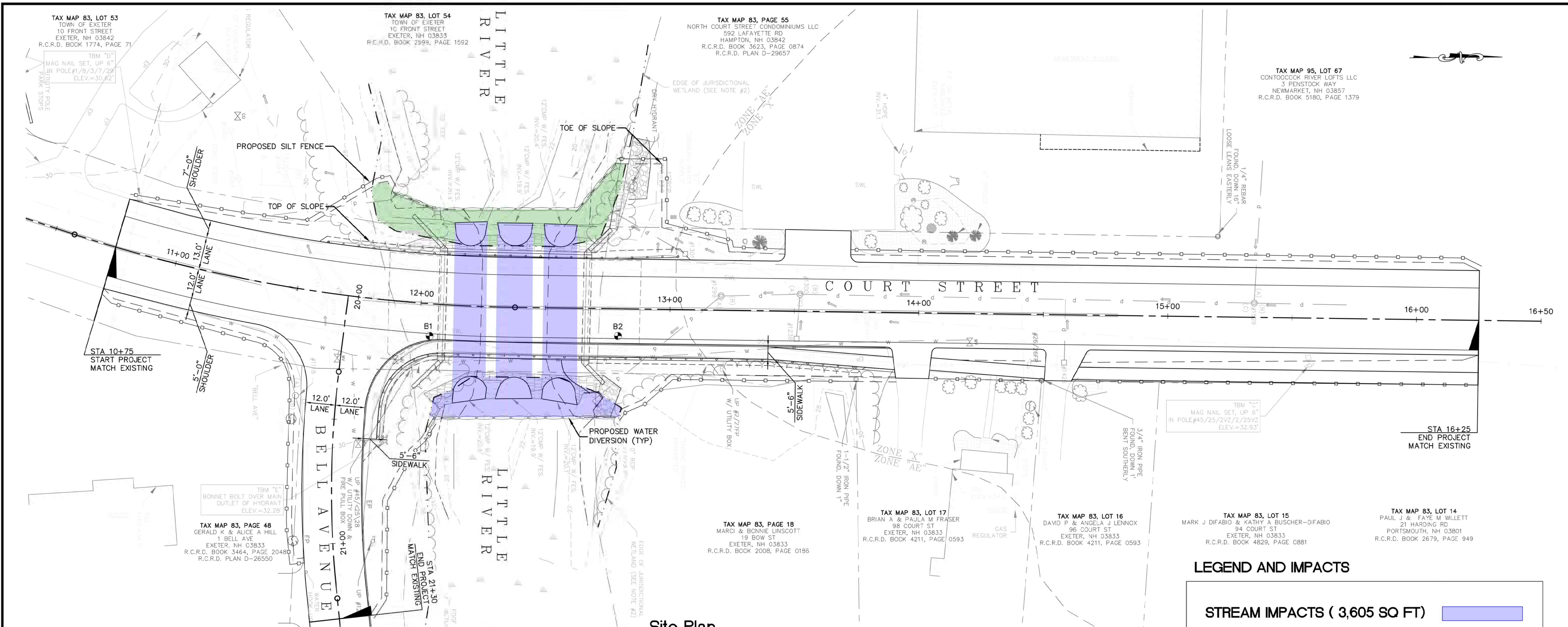
CMA ENGINEERS
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 603/671-6196

10 Elm Street
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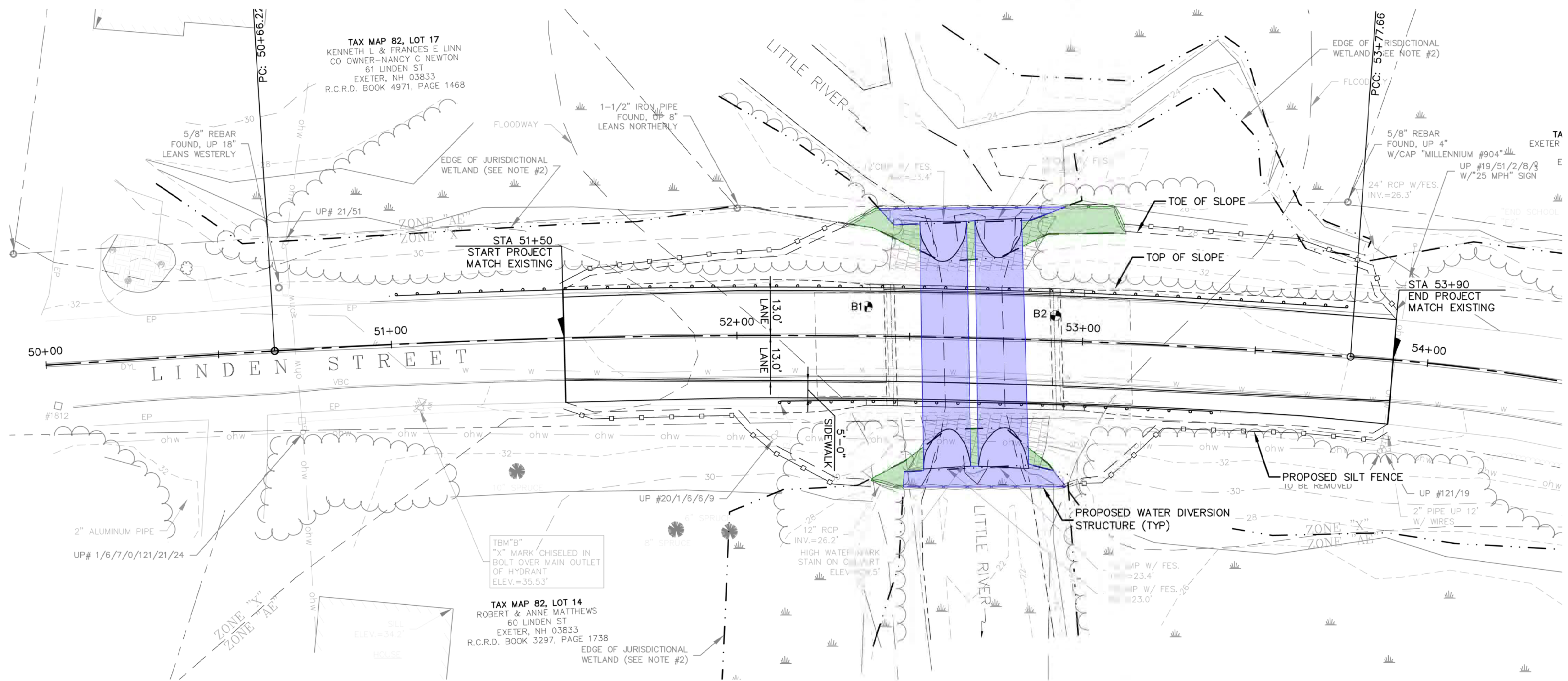


LEGEND AND IMPACTS

STREAM IMPACTS (3,605 SQ FT) [Blue Shaded Area]

WETLAND IMPACTS (1125 SQ FT) [Green Shaded Area]

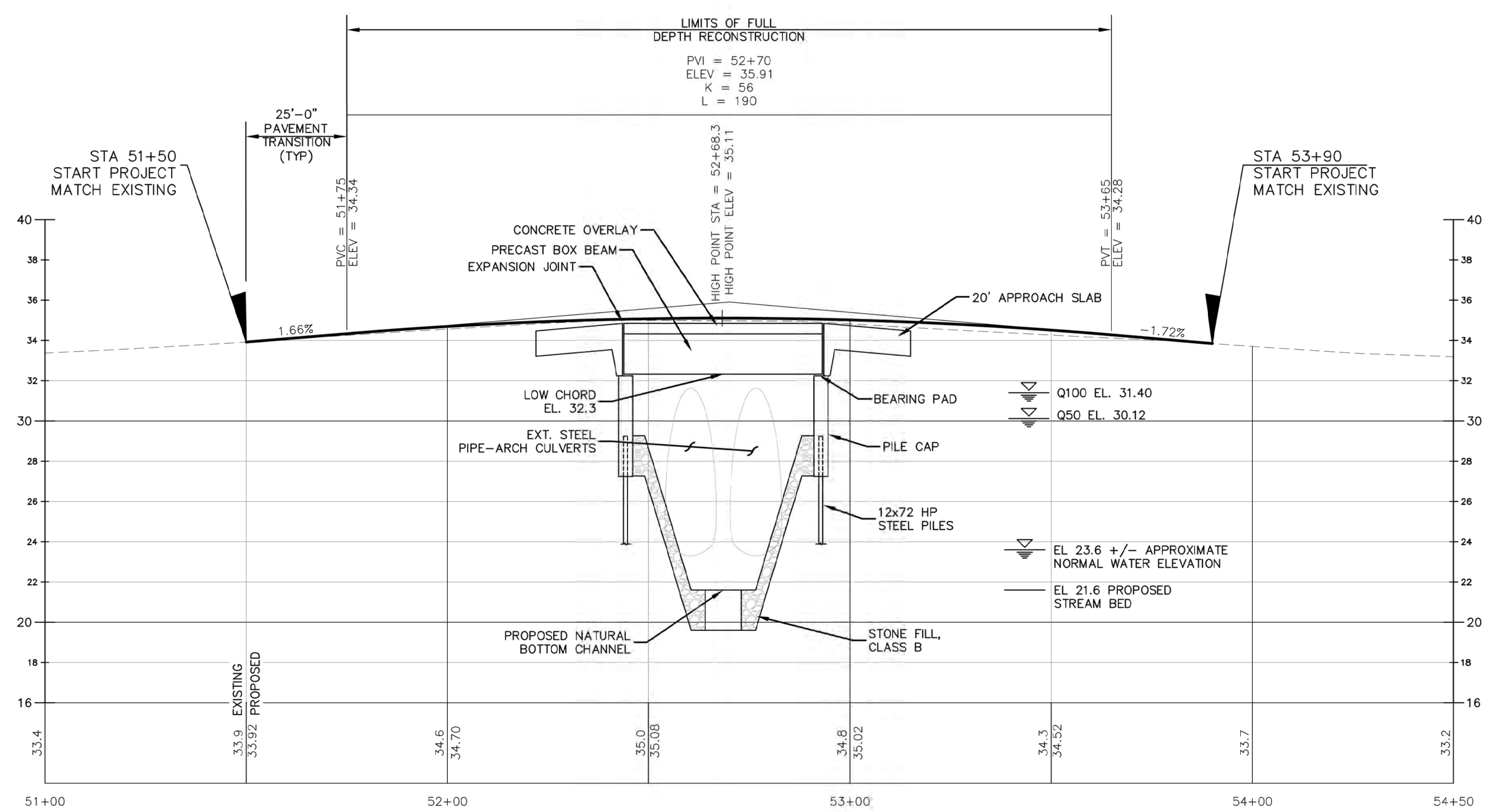
<p>CMA ENGINEERS CIVIL/ENVIRONMENTAL ENGINEERS</p> <p>Langley Place 10 Free Street Portland, Maine 04101 207.851-4223</p> <p>35 Bow Street 55 So. Commercial Street Portland, ME 04101 603.431-6196</p> <p>info@cmaengineers.com www.cmaengineers.com</p>		<p>designed by: LBK/JLG</p> <p>drawn by: LBK</p> <p>approved by: JLG</p> <p>scale: As Noted</p>
<p>date: November 2014</p> <p>project no: 923</p> <p>file name: 923 - Court Site Plan (LEP) (dwg)</p>	<p>no. 1</p> <p>revision</p>	<p>by: JLG</p> <p>date: 11/17/14</p>
<p>Town of Exeter Department of Public Works Court and Linden Street Little River Bridge Replacement Court Street General Plan and Profile</p>		
<p>drawing no. 5</p> <p>sheet: 5 of 12</p>		



Site Plan
Scale: 1" = 20'

LEGEND AND IMPACTS

- STREAM IMPACTS (2,410 SQ FT) [Blue shaded area]
- WETLAND IMPACTS (435 SQ FT) [Green shaded area]



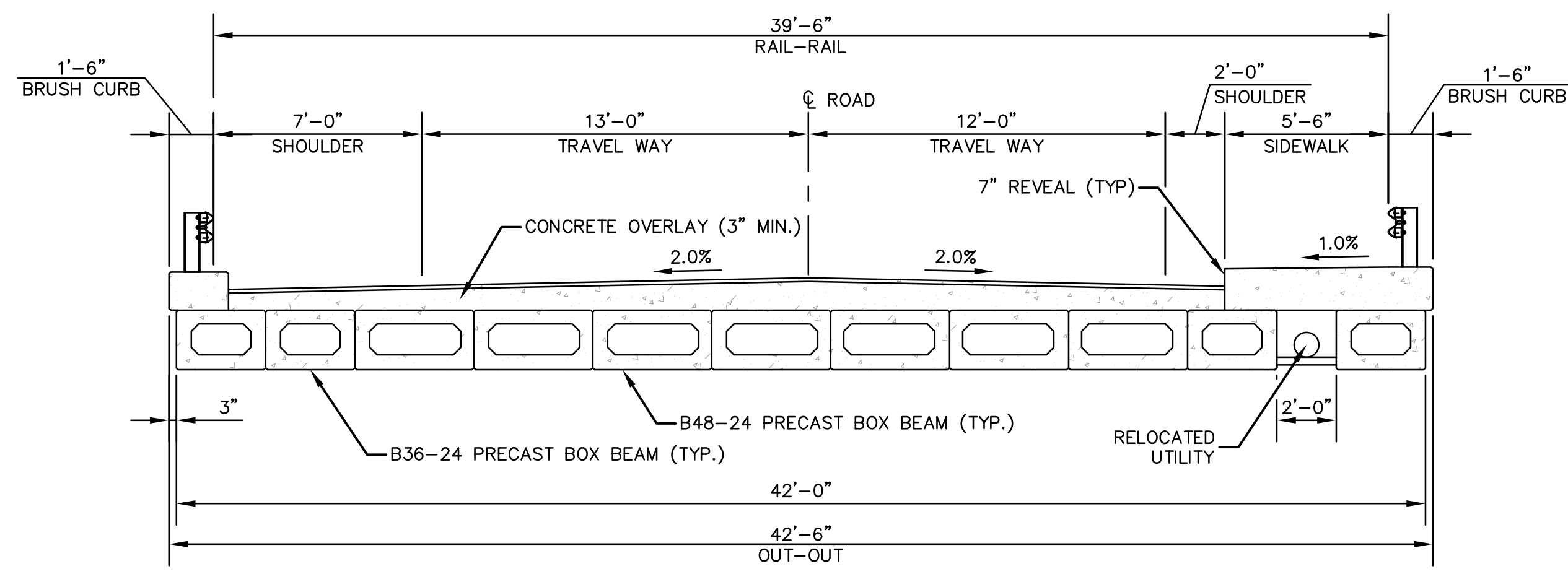
Profile
Scale: 1" = 20' (H)
1" = 4' (V)

designed by: LBK/JLG		drawn by: LBK		approved by: JLG	
date: November 2014		project no: 923		file name: 923 - Linden_Site Plan.dwg	
Town of Exeter Department of Public Works		Court and Linden Street Little River Bridge Replacement		Linden Street General Plan and Profile	
sheet: 6		of 12		drawing no. 6	

1	WETLAND PERMIT PLANS	no.	11/7/14	date	JLG	by
			revision			

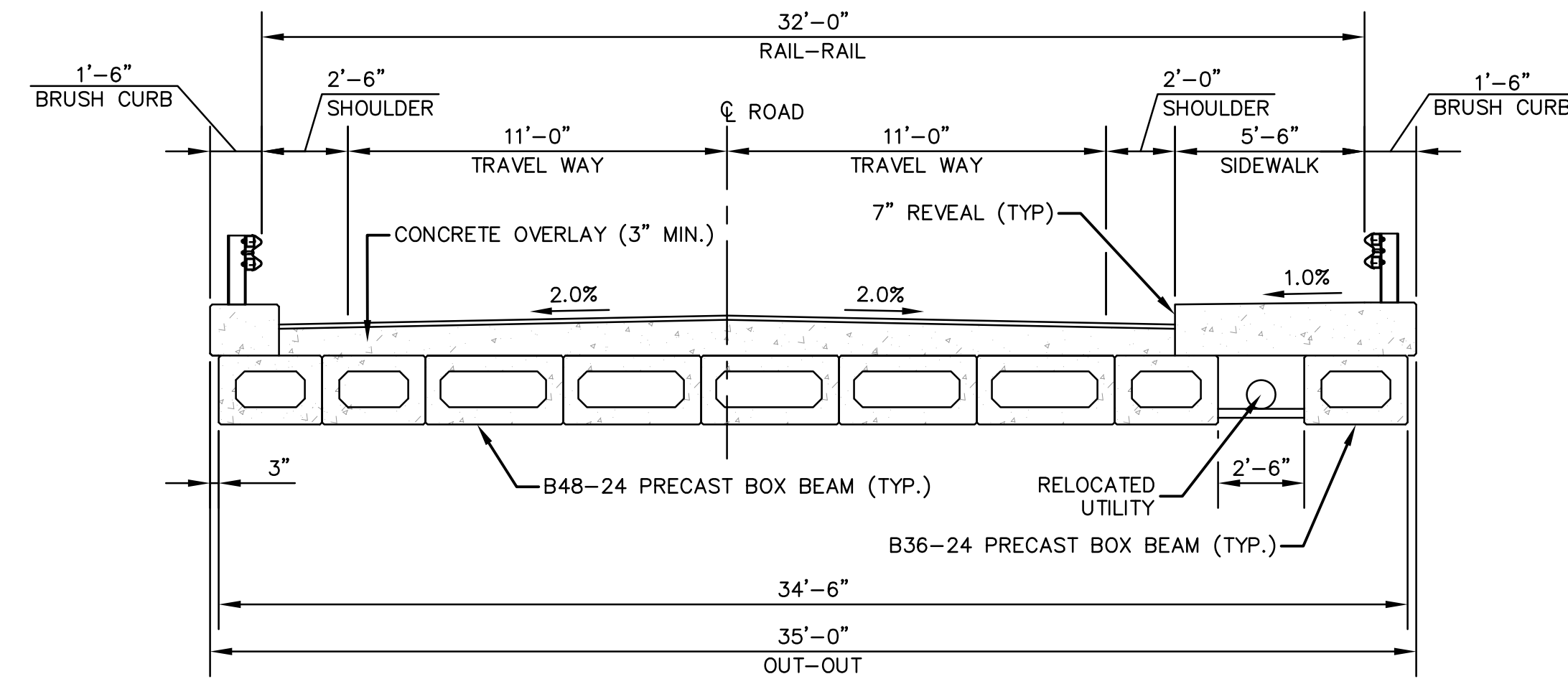
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603/431-6196
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JASON GALLANT
Professional Engineer
No. 10591
State of New Hampshire



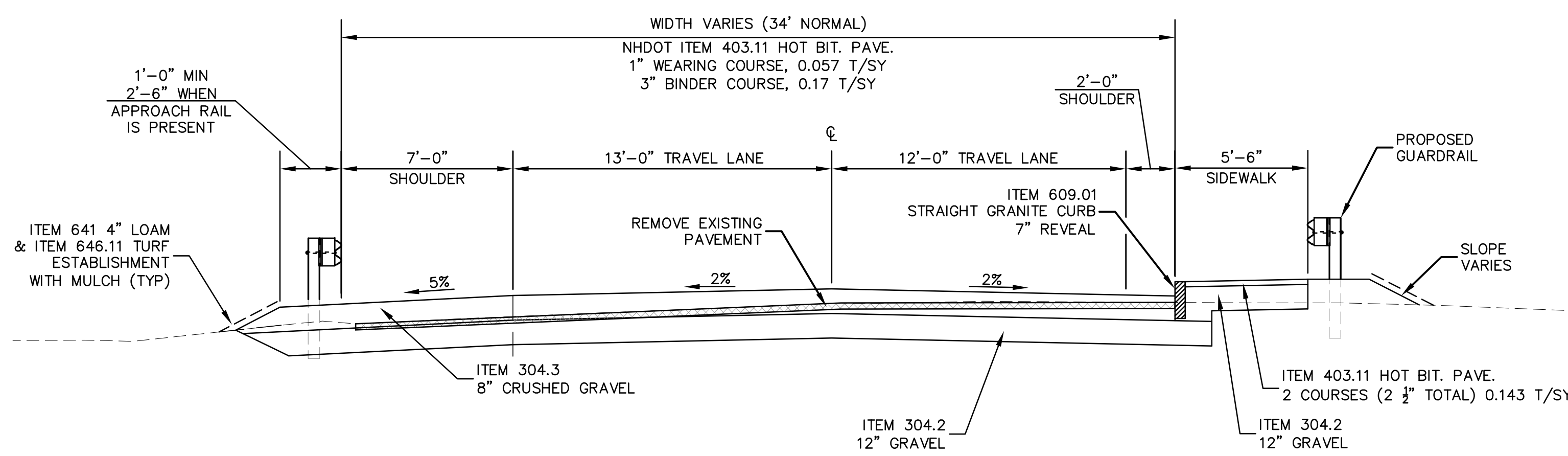
Court Street Typical Deck Section

Scale: 1/4"=1'-0"



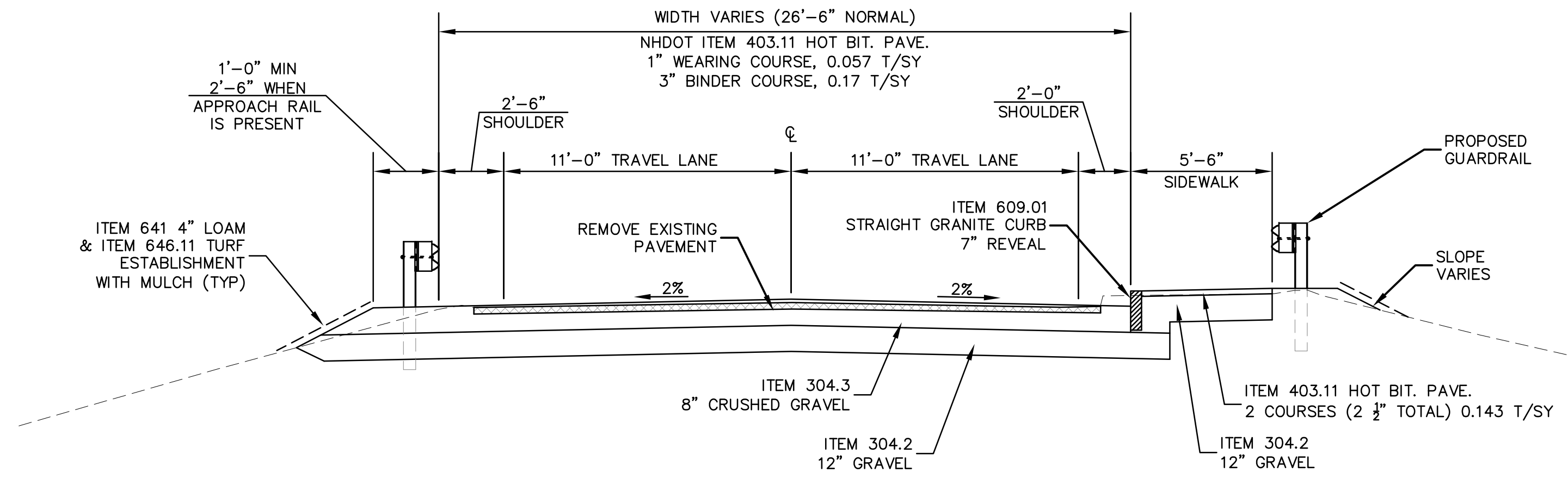
Linden Street Typical Deck Section

Scale: 1/4"=1'-0"



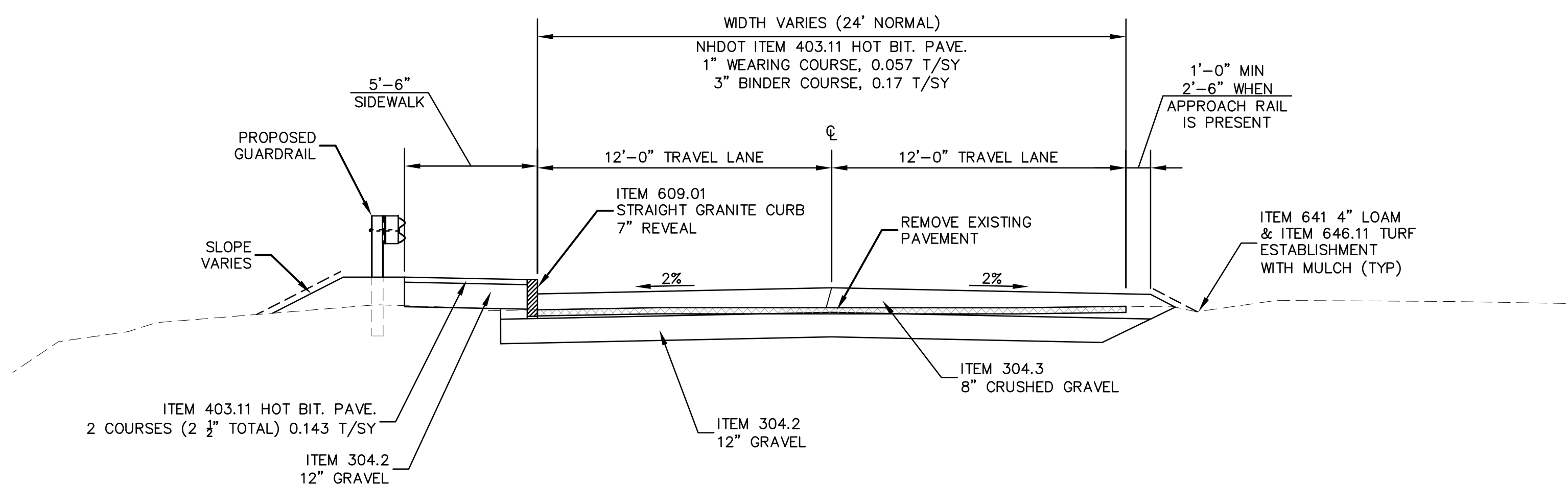
Court Street Typical Approach Roadway Section

Scale: 1/4"=1'-0"



Linden Street Typical Approach Roadway Section

Scale: 1/4"=1'-0"

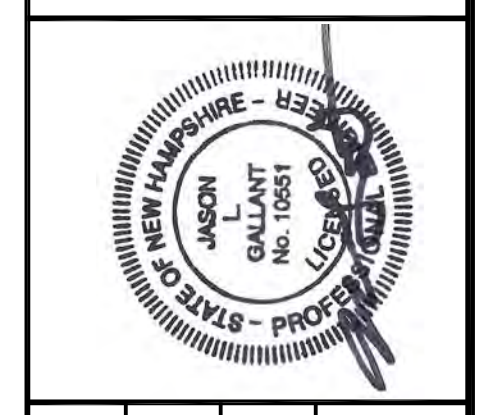


Bell Avenue Typical Roadway Section

Scale: 1/4"=1'-0"

no.	1	WETLAND PERMIT PLANS	revision	date	11/7/14	JLG	by
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 10 Free Street, Portland, Maine 04101, 207.654-4223, www.cmaengineers.com



date:	November 2014
designed by:	LBK/JLG
project no.:	923
drawn by:	LBK
file name:	923 - Court_Site Plans (LBK).dwg
approved by:	
scale:	As Shown

Town of Exeter
 Department of Public Works
 Court and Linden Street
 Little River Bridge Replacement
 Typical Bridge and Roadway Sections

F:\CADD\PROJECTS\923-Exeter Bridges\Production\Court St\Preliminary Design\923 - Court_Site Plan (LBK).dwg Date Plotted: Nov 07, 2014 - 3:56pm Plotted By: LKALLOCH


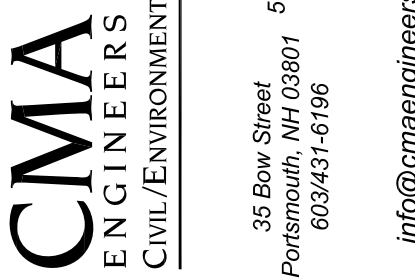
TEST BORING LOG

CMA Engineers, Inc.			PROJECT		Test Boring Number
Civil/Environmental Engineers 35 Bow Street Portsmouth, NH 03801 Phone: 603.431.6196 Fax: 603.431.5376			Description: Court St. Bridge Location: Exeter, NH Notes:		B-1
CMA Engineer: Bob Grillo			Contractor: Great Works Pump & Test Boring, Inc.		Date: July 7, 2014
File Number: #923			Operator: Peter Michaud		Weather: Sun 80F
Depth	Sample No. Depth (ft)	Blow Count	Sample Descriptions and Classifications	Remarks	
1	S-1 0.5' - 2.5'	9	Brown Sand and Gravel, trace silt. Fill. Dry.	4" Asphalt Cobble at 1'	
2		10			
3		16			
4		16			
5	S-2 5' - 7'	7	Brown Sandy Clay. Roots and organics. Fill. Moist.	Groundwater Encountered at 8.0'	
6		2			
7		1			
8		1			
9	S-3 5' - 7'	8	Gray Medium Sand, trace silt. Wood fragments. Fill.	Change to Silty Clay at 12.5' Solid stem augers to 10' 4" Casing to 13'. Drive and wash drilling.	
10		8			
11		5			
12		4			
13	S-4 13' - 15'	WOH / 2'		Gray Silty Clay.	
14					
15	T-1 15' - 17'			440 psf	
16		Vane Shear			
17	Vane Shear 17' - 17.75'			440 psf	
18		Vane Shear			
19	Vane Shear 17.75' - 18.5'			450 psf	
20		Vane Shear			
21	Vane Shear 20' - 20.75'			450 psf	
22		Vane Shear			
23	S-2			Change to Sand at 23.7'	
24					
25	S-2	10	Gray Fine to Medium Sand, some silt, little gravel. Moist.		
		8			

BOTTOM OF STUB ABUTMENT ABUTMENT A (EL. 25.15)

TEST BORING LOG

CMA Engineers, Inc.			PROJECT		Test Boring Number
Civil/Environmental Engineers 35 Bow Street Portsmouth, NH 03801 Phone: 603.431.6196 Fax: 603.431.5376			Description: Court St. Bridge Location: Exeter, NH Notes:		B-1
CMA Engineer: Bob Grillo			Contractor: Great Works Pump & Test Boring, Inc.		Date: July 7, 2014
File Number: #923			Operator: Peter Michaud		Weather: Sun 80F
Depth	Sample No. Depth (ft)	Blow Count	Sample Descriptions and Classifications	Remarks	
26	S-6 30' - 32'	9	Gray Clayey Fine to Medium Sand, trace gravel and cobbles.		
27		10			
28	S-7 35' - 37'	5	Same, some gravel.	Cobbles encountered 37.5' to 38.5'	
29		7			
30		6			
31		6			
32	S-8 40' - 42'	13	Same	Refused to drilling tools at 42.5'. Roller bit drilled to 45' through rock.	
33		7			
34		10			
35		15			
36		18			
37		11			
38		18			
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					

	
date: November 2014 project no: 923 file name: 923 - Court_Site Plan (LBK) (Log)	designed by: LBK/JLG drawn by: LBK approved by: JLG scale: N.T.S.
Town of Exeter Department of Public Works Court and Linden Street Little River Bridge Replacement Court Street Boring Logs 1	11/7/14 JLG date 1 WETLAND PERMIT PLANS no. revision
drawing no. 08	sheet: 8 of 12

Boring No. B-2
Station 12+79, 10.9' Right

TEST BORING LOG

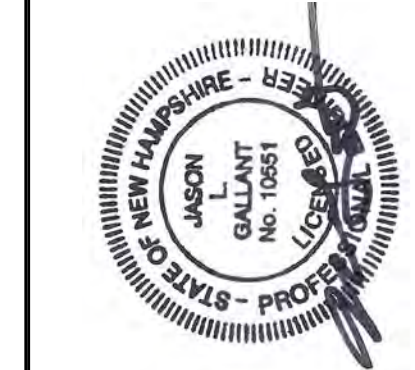
CMA Engineers, Inc. Civil/Environmental Engineers 35 Bow Street Portsmouth, NH 03801 Phone: 603.431.6196 Fax: 603.431.5376			PROJECT Description: Court St. Bridge Location: Exeter, NH Notes:	Test Boring Number B-2
CMA Engineer: Bob Grillo			Contractor: Great Works Pump & Test Boring, Inc.	Date: July 7, 2014
File Number: #923			Equipment: Acker Track Rig	Ground Elevation: 31.5' +/-
Operator: Peter Michaud			Weather: Sun 80F	
Depth	Sample No. Depth (ft)	Blow Count	Sample Descriptions and Classifications	Remarks
1	S-1 0.5' - 2.5'	8	Brown Sand and Gravel, trace silt. Dry. Fill	4" Asphalt
2		14		
3		15		
4		13		
5	S-2 5' - 7'	5	Same	Solid Stem Augers to advance boring
6		6		
7		5		
8			▽	Groundwater at 8.0'
11	S-3 10' - 12'	2	Gray Silty Clay overlaying Gray Fine to Medium Sand, trace silt fill.	
12		9		
13	S-4 12' - 14'	3	12" Gray Sand, trace silt. Wood Fragments. Fill.	Change to Silty Clay at 12.5'
14		3	12" Gray Silty Clay	
15		4		
16	S-5 15' - 17'	2	Gray Silty Clay	Change to Soft Silty Clay at 15.2'
17		1		
18		1/12"		
19				Change to Sand at 19'
20	Rock Core-1 19' - 22.5'			Cored through boulder
21				
22				
23				
24		3		
25	S-6 24' - 26'	6	Gray Fine to Coarse Sand, little silt and gravel	
		15		
		12		

BOTTOM OF STUB ABUTMENT ABUTMENT B (EL. 25.13)

Boring No. B-2
(Continued)

TEST BORING LOG

CMA Engineers, Inc. Civil/Environmental Engineers 35 Bow Street Portsmouth, NH 03801 Phone: 603.431.6196 Fax: 603.431.5376			PROJECT Description: Court St. Bridge Location: Exeter, NH Notes:	Test Boring Number B-2
CMA Engineer: Bob Grillo			Contractor: Great Works Pump & Test Boring, Inc.	Date: July 7, 2014
File Number: #923			Equipment: Acker Track Rig	Ground Elevation: 31.5' +/-
Operator: Peter Michaud			Weather: Sun 80F	
Depth	Sample No. Depth (ft)	Blow Count	Sample Descriptions and Classifications	Remarks
26	S-7 31' - 33'		Gray Clayey Sand, little gravel.	Cobbles encountered from 29.5' - 30' Could not advance casing through cored boulder. Borehole collapsed. Pushed s.s. sampler to 31'. Refusal to drilling tools at 40.5'. Roller bit drilled to 41.5' through rock.
27				
28				
29				
30				
31		11		
32		14		
33		24		
34		30/5"		
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

designed by: LBK/JLG	drawn by: LBK	approved by: JLG	scale: N.T.S.
date: November 2014	project no: 923	file name: 923 - Court_Site Plan (LBK).dwg	
Town of Exeter Department of Public Works		Court and Linden Street Little River Bridge Replacement	
		Court Street Boring Logs 2	
drawing no. 9			
sheet: 9 of 12			
CMA ENGINEERS CIVIL/ENVIRONMENTAL ENGINEERS 35 Bow Street Portsmouth, NH 03801 603.431.6196 info@cmaengineers.com			10 Free Street Portland, Maine 04101 207.654.4223 www.cmaengineers.com
			
11/7/14	JLG	date	by
1	no.	revision	

Boring No. B-1
Station 52+37.6, 8.5 Left

TEST BORING LOG

CMA Engineers, Inc.			PROJECT		Test Boring Number
Civil/Environmental Engineers 35 Bow Street Portsmouth, NH 03801 Phone: 603.431.6196 Fax: 603.431.5376			Description: Linden Street Bridge Location: Exeter, NH Notes:		B-1
CMA Engineer: Bob Grillo			Contractor: Great Works Pump & Test Boring, Inc.		Date: July 8, 2014
File Number: #923			Equipment: Acker Track Rig		Ground Elevation: 35' +/-
Operator: Peter Michaud			Weather: Sun 80F		
Depth	Sample No. Depth (ft)	Blow Count	Sample Descriptions and Classifications	Remarks	
1	S-1 0.5' - 2.5'	16	Brown Sand and Gravel, trace Silt. Dry. Fill.	4" Asphalt	
2		17		Solid stem augers to advance boring.	
3		14			
4		14			
5	S-2 5' - 7'	5	Same. Moist.	Obstruction at 9'. Bridge Abutment? Move 2' south.	
6		3			
7		5			
8		4			
9	S-3 10' - 12'	2	Brown-Gray Silty Clay with brick fragments. Fill.		
10		2			
11		5			
12		8			
13	S-4 12' - 14'	7	Brown-Gray Silty Clay with organics. Fill.		
14		7			
15		9			
16	S-5 15' - 17'	6	Brown-Gray Silty Clay. Fill.		
17		6			
18	S-6 17' - 19'	8	No Recovery	Rock in Spoon tip.	
19		5			
20		5			
21	T-1 20' - 22'		Gray Silty Clay	Drove 4" Casing to 20', wash boring.	
22	Vane Shear 22' - 22.75'		730 psf		
23	Vane Shear 22.75' - 23.5'		650 psf		
24					
25	Vane Shear 25' - 25.75'		530 psf		


BOTTOM OF STUB ABUTMENT ABUTMENT A (E.L. 27.24)

Boring No. B-1
(Continued)

TEST BORING LOG

CMA Engineers, Inc.			PROJECT		Test Boring Number
Civil/Environmental Engineers 35 Bow Street Portsmouth, NH 03801 Phone: 603.431.6196 Fax: 603.431.5376			Description: Linden Street Bridge Location: Exeter, NH Notes:		B-1
CMA Engineer: Bob Grillo			Contractor: Great Works Pump & Test Boring, Inc.		Date: July 8, 2014
File Number: #923			Equipment: Acker Track Rig		Ground Elevation: 35' +/-
Operator: Peter Michaud			Weather: Sun 80F		
Depth	Sample No. Depth (ft)	Blow Count	Sample Descriptions and Classifications	Remarks	
26	Vane Shear 25.75' - 26.5'		530 psf		
27					
28					
29					
30	S-7 30' - 30.1'	50/5"		— Changed to Granular Soil at 28.8'	
31				Refused at 30.1'	
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					

designed by: LBK/JLG	drawn by: LBK	approved by: JLG	scale: N.T.S.
date: November 2014	project no: 923	file name: 923 - Linden_Site Plan.dwg	
Town of Exeter Department of Public Works		Little River Bridge Replacement Linden Street Boring Logs 1	
drawing no. 10			
sheet: 10 of 12			



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35 Bow Street
55 So. Commercial Street
Portsmouth, NH 03801
603.431-6196
603.431-5376
info@cmaengineers.com
www.cmaengineers.com

Boring No. B-1
Station 52+92.0, 7.2 Left

TEST BORING LOG

CMA Engineers, Inc. Civil/Environmental Engineers 35 Bow Street Portsmouth, NH 03801 Phone: 603.431.6196 Fax: 603.431.5376			PROJECT Description: Linden Street Bridge Location: Exeter, NH Notes:	Test Boring Number B-2
CMA Engineer: Bob Grillo			Contractor: Great Works Pump & Test Boring, Inc.	Date: July 8, 2014
File Number: #923			Equipment: Acker Track Rig	Ground Elevation: 35' +/-
Operator: Peter Michaud			Weather: Sun 80F	
Depth	Sample No. Depth (ft)	Blow Count	Sample Descriptions and Classifications	Remarks
1	S-1 0.5' - 2.5'	15	Brown Sand and Gravel, trace Silt. Dry. Fill.	4" Asphalt Solid stem augers to advance boring.
2		15		
3		14		
4		15		
5		9		
6	S-2 5' - 7'	8	Same.	
7		5		
8		5		
9				
10				
11	S-3 10' - 12'	8	Gray Sand and Gravel, some silt, organics. Moist. Fill.	
12		10		
13	S-4 12' - 14'	13	Gray-Brown mottled Silty Clay with fine sand lenses. Fill. Moist	Clay Fill encountered at 13'. Groundwater at 14'.
14		11		
15		10		
16	S-5 15' - 17'	4	Dark Brown to Gray Silty Clay with organics. Fill.	Drove 4" Casing to 15', wash boring.
17		2		
18	S-6 17' - 19'	4	Same to 18.5'	
19		6		
20		4	Gray Fine to Medium Sand, trace silt. Fill.	Change to Silty Clay at 19.5'
21	S-7 20' - 22'	WOH	Gray Silty Clay.	
22		24"		
23				
24				
25				
	Vane Shear 25' - 25.75'		560 psf	


BOTTOM OF STUB ABUTMENT
ABUTMENT B (EL. 27.24)

Boring No. B-1
(Continued)

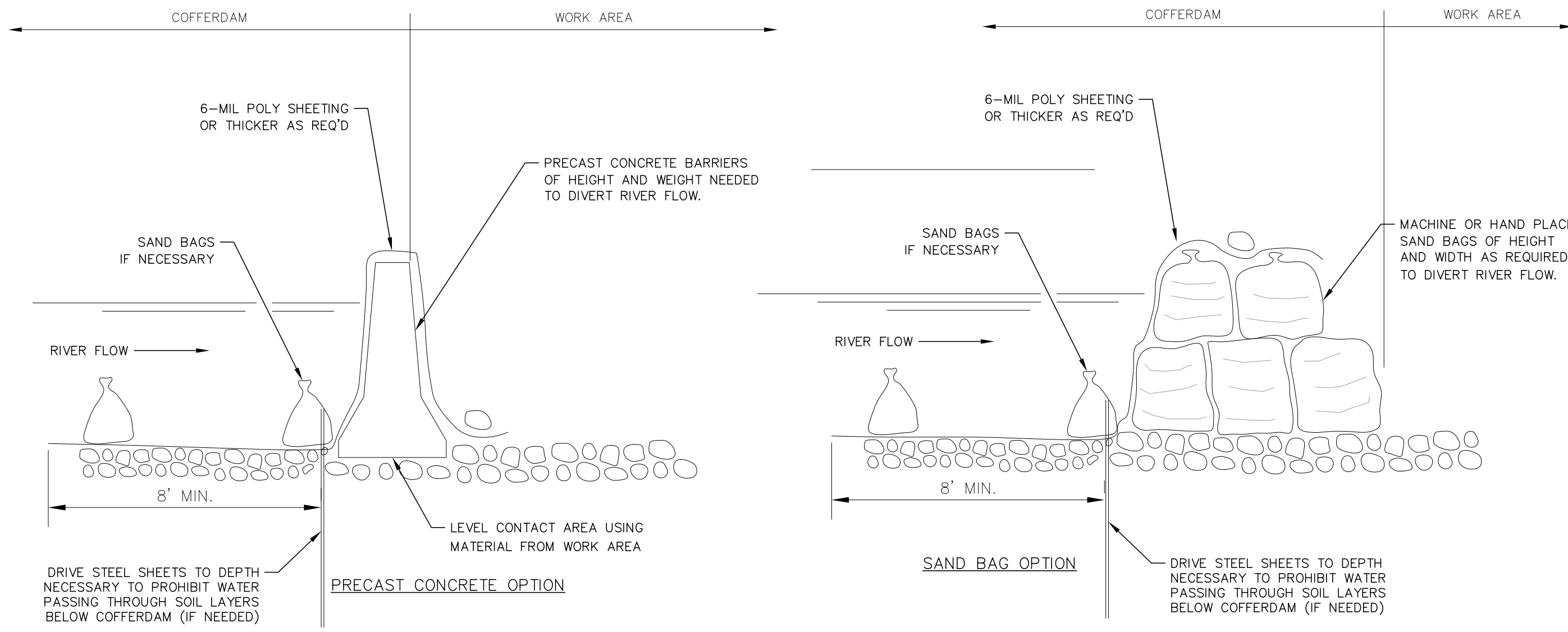
TEST BORING LOG

CMA Engineers, Inc. Civil/Environmental Engineers 35 Bow Street Portsmouth, NH 03801 Phone: 603.431.6196 Fax: 603.431.5376			PROJECT Description: Linden Street Bridge Location: Exeter, NH Notes:	Test Boring Number B-2
CMA Engineer: Bob Grillo			Contractor: Great Works Pump & Test Boring, Inc.	Date: July 8, 2014
File Number: #923			Equipment: Acker Track Rig	Ground Elevation: 35' +/-
Operator: Peter Michaud			Weather: Sun 80F	
Depth	Sample No. Depth (ft)	Blow Count	Sample Descriptions and Classifications	Remarks
26	Vane Shear 25.75' - 26.5'		540 psf	
27				
28				
29				
30				
31	S-8 30' - 31.9'	14	Rock fragments mixed with gray silty clay.	End of Clay Layer at 31.8' Changed to Weathered Rock at 31.8'
32		9		
33		8		
34		50/5"		
35				Roller bit drill to 33.5' through weathered rock. Lost all drilling fluids in rock.
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

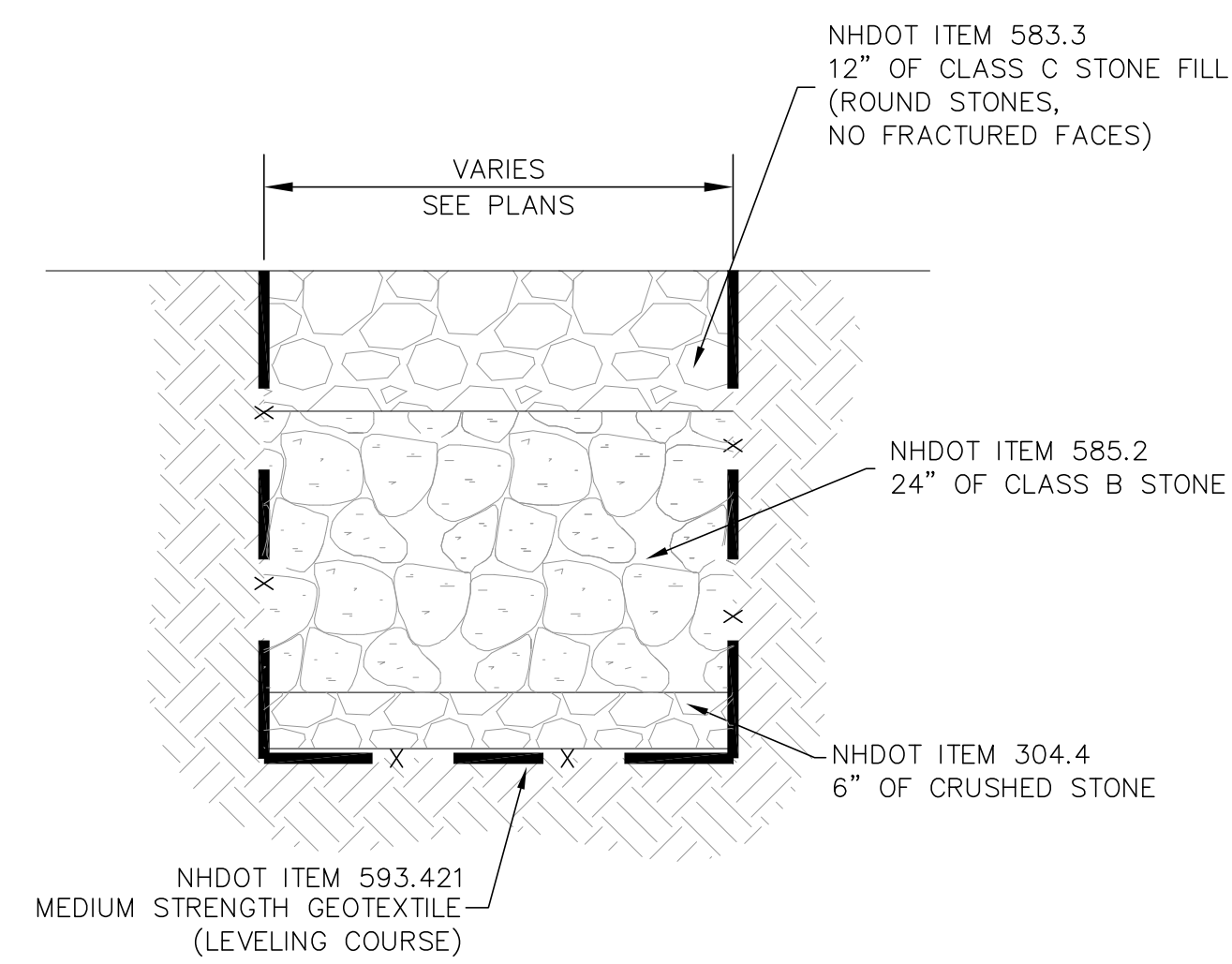
designed by: LBK/JLG	drawn by: LBK	approved by: JLG	scale: N.T.S.
date: November 2014	project no: 923	file name: 923 - Linden_Site_Plan.dwg	
Town of Exeter Department of Public Works		Little River Bridge Replacement Linden Street Boring Logs 2	
drawing no. 11			
sheet: 11 of 12			



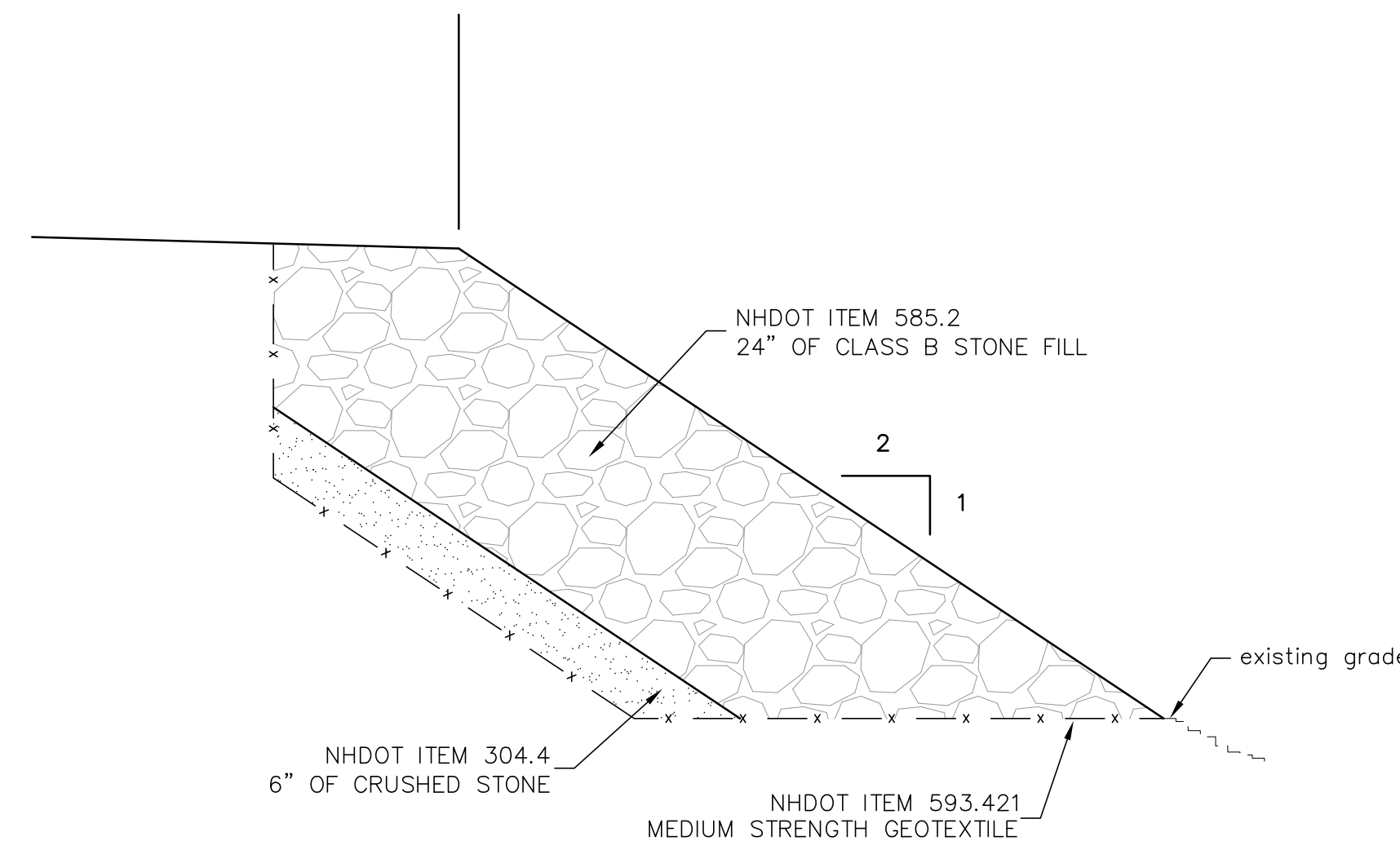
CMA ENGINEERS
CIVIL/ENVIRONMENTAL ENGINEERS
Langur Place
10 Free Street
Portsmouth, NH 03801
603.431-6196
www.cmaengineers.com



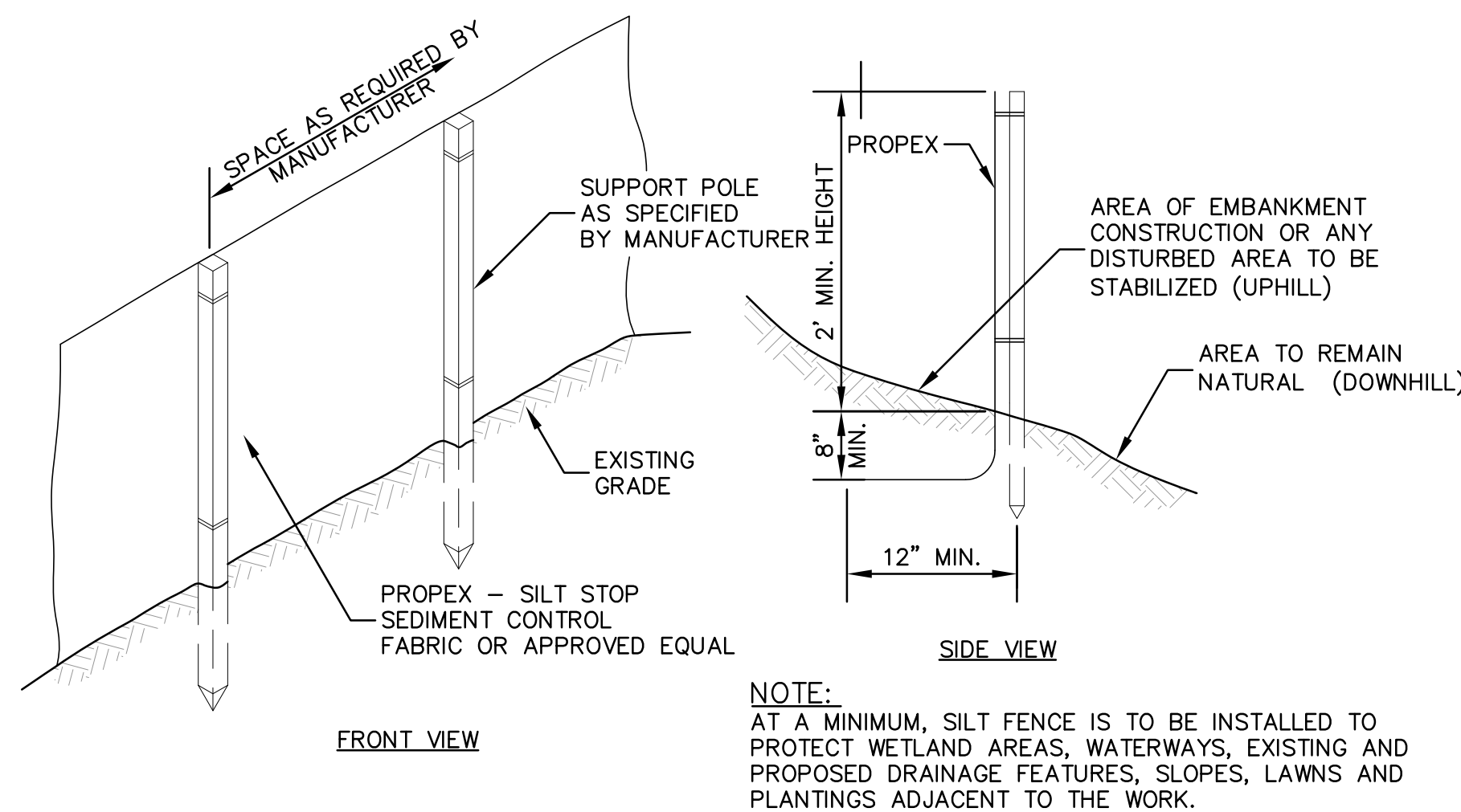
NHDOT Item 503.2
Temporary Cofferdam Options
 Not to Scale



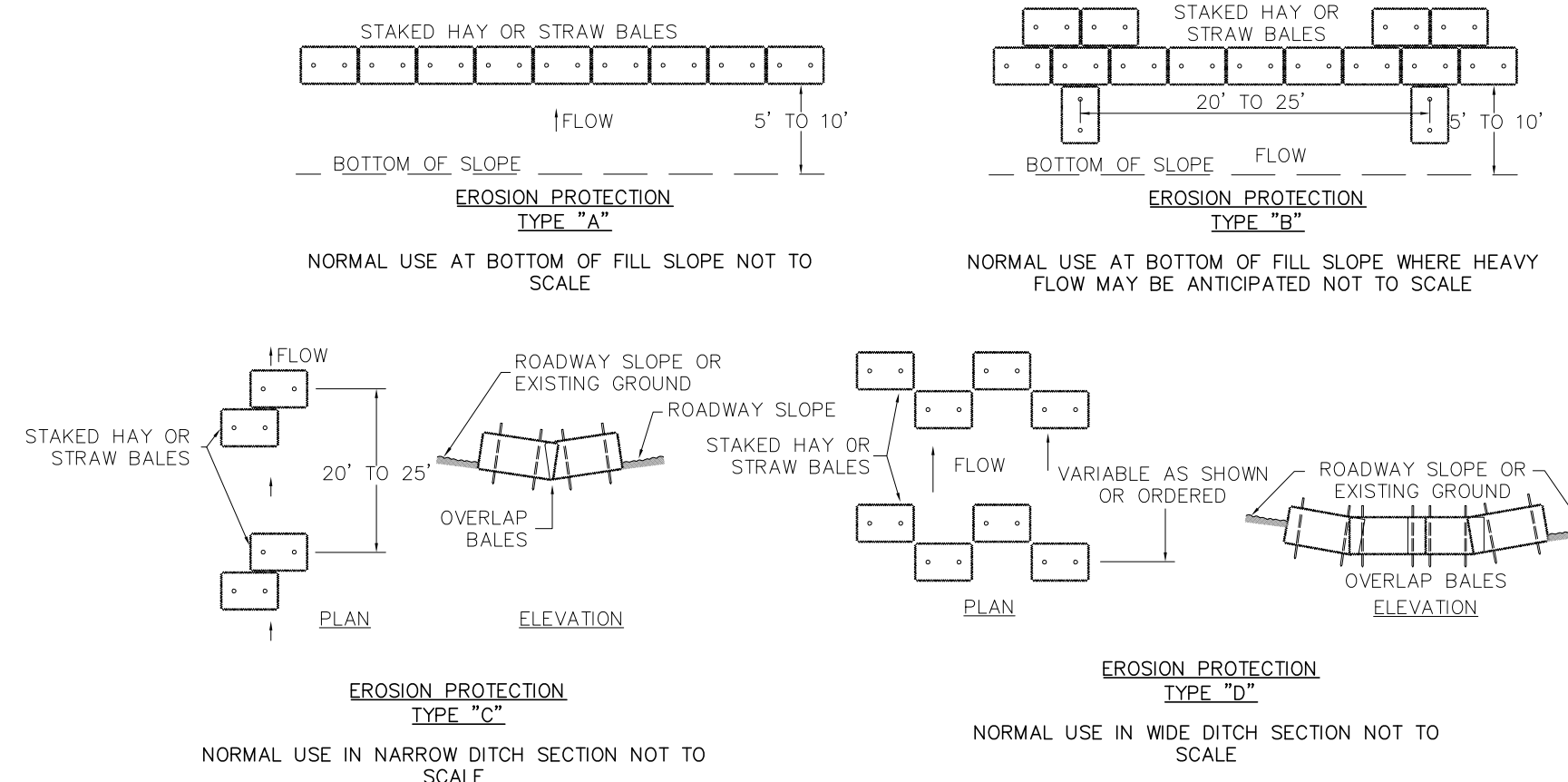
Inlet/Outlet Stone Apron Detail
 Not to Scale



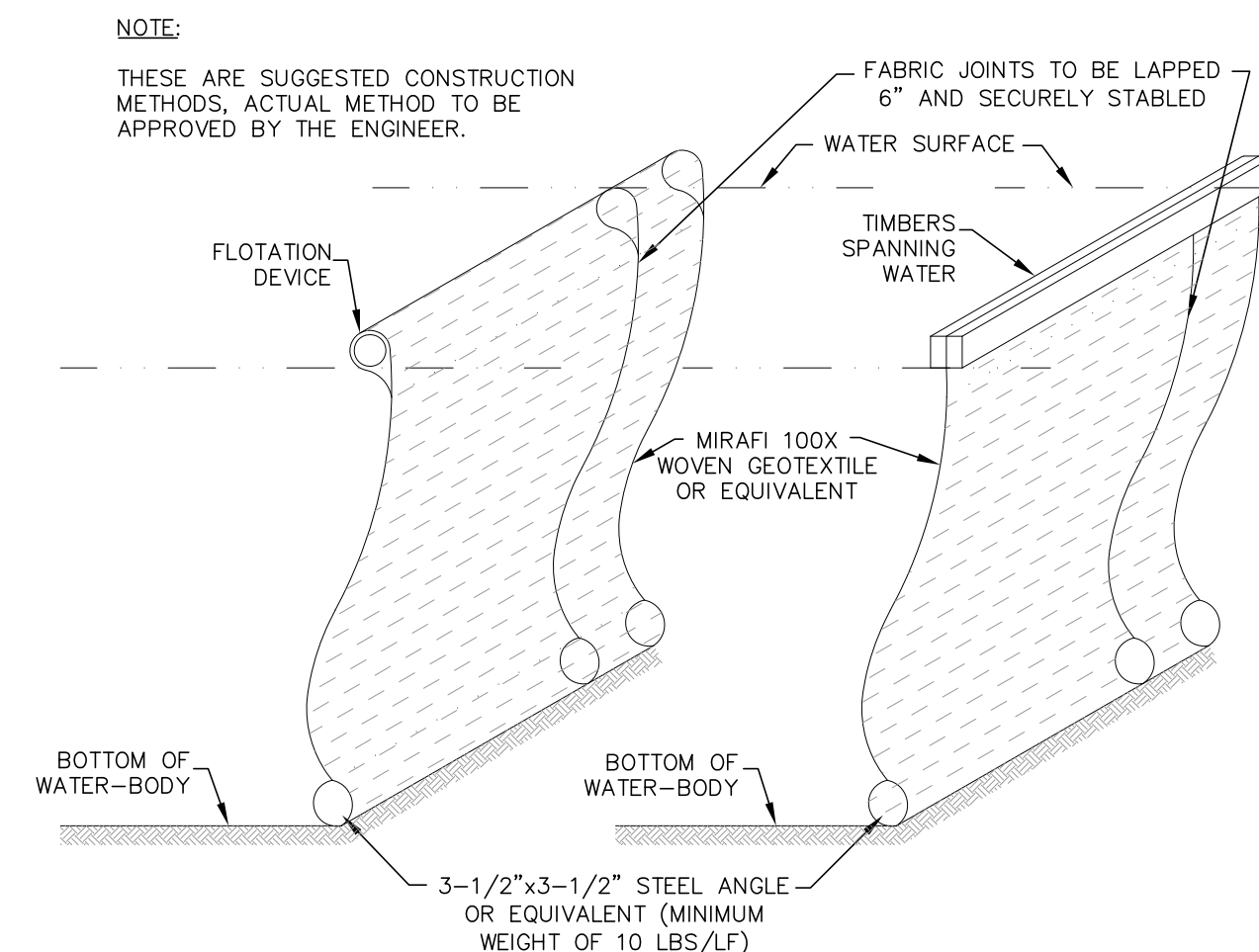
Slope Protection Detail
 Not to Scale



Silt Fence
 Not to Scale



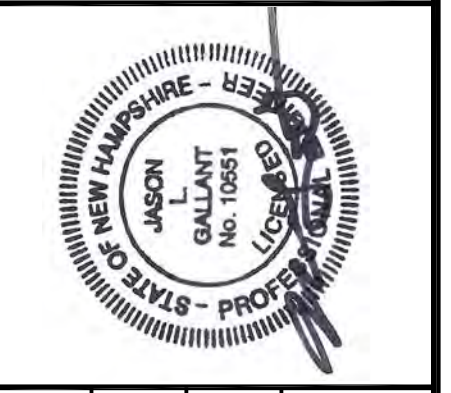
Hay Bale Detail
 Not to Scale



NHDOT Item 645.5SB
Sedimentation Barrier
 Not to Scale

11/7/14	JLG	by
1	WETLAND PERMIT PLANS	revision
no.		

CMAA ENGINEERS
 CIVIL/ENVIRONMENTAL ENGINEERS
 Langer Place
 10 Free Street
 Portland, Maine 04101
 207/541-4223
 info@cmaaingineers.com
 www.cmaaingineers.com



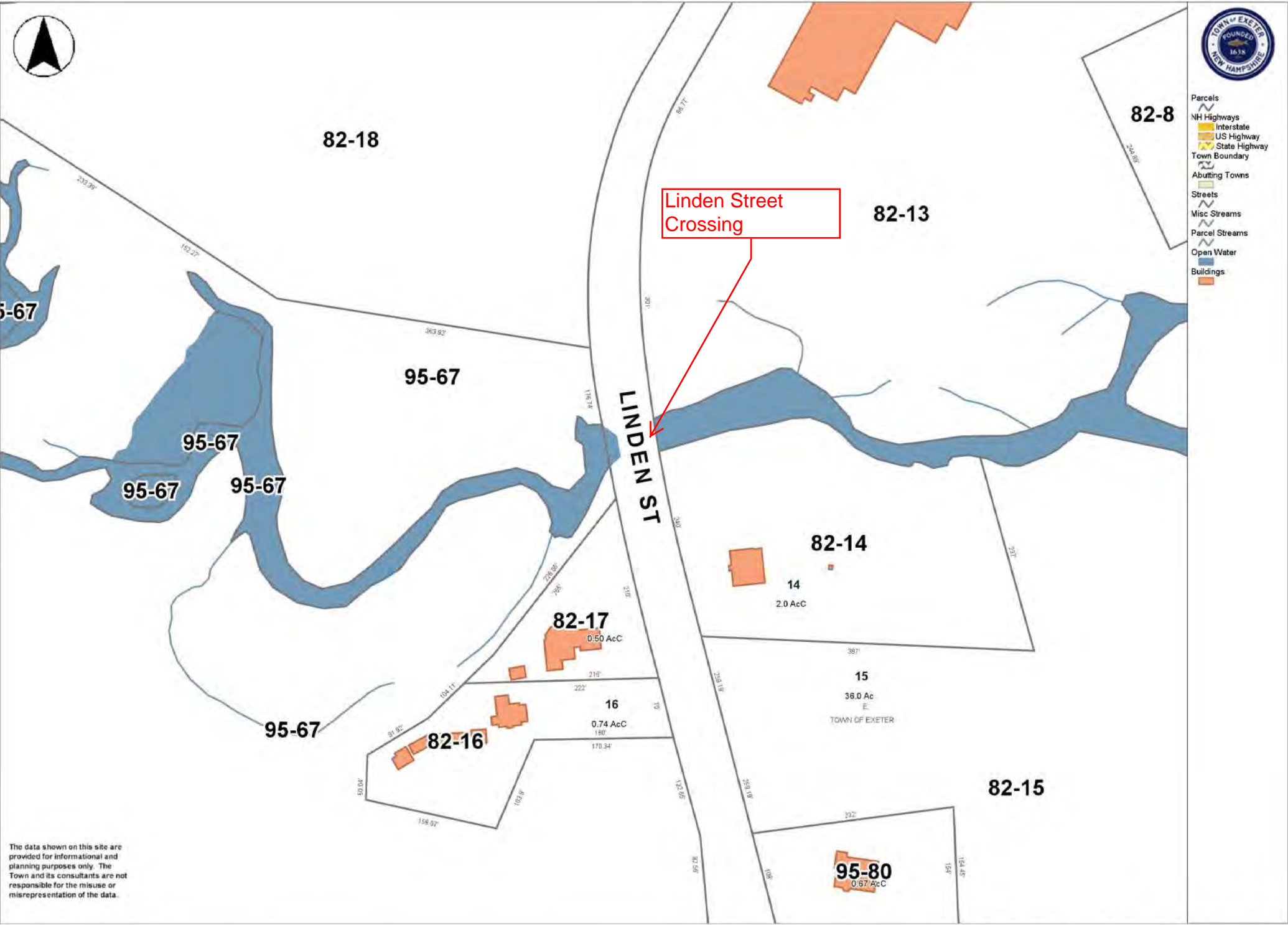
designed by: LBK/JLG	drawn by: LBK	approved by:
date: November 2014	project no: 923	file name: 923 - Wetlands Permit Cover.dwg
scale: N.T.S.		

Town of Exeter
 Department of Public Works
 Court and Linden Street
 Little River Bridge Replacement
 Erosion Control Details

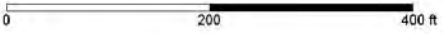
L. Tax Maps



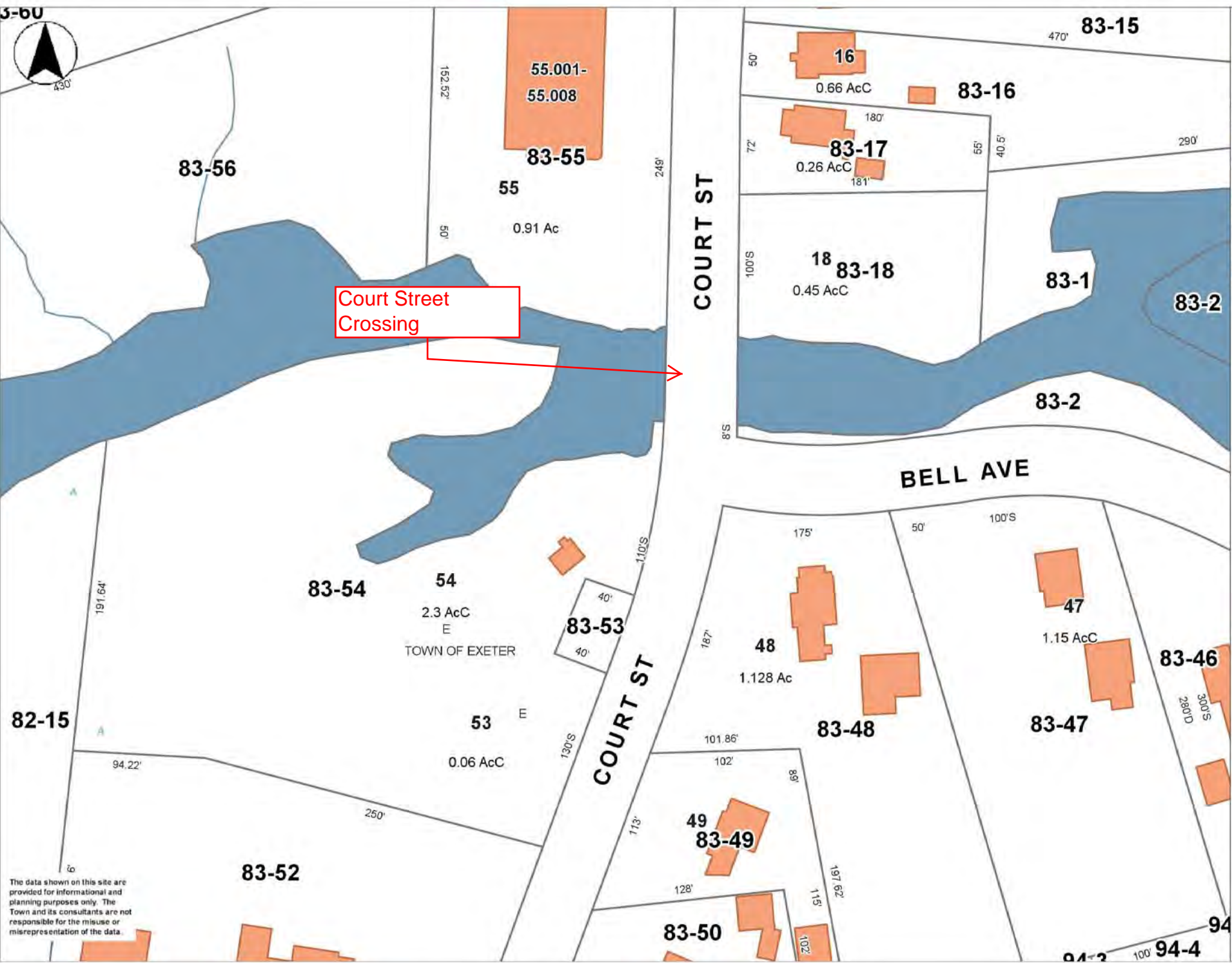
- Parcels
- NH Highways
- Interstate
- US Highway
- State Highway
- Town Boundary
- Abutting Towns
- Streets
- Misc Streams
- Parcel Streams
- Open Water
- Buildings



The data shown on this site are provided for informational and planning purposes only. The Town and its consultants are not responsible for the misuse or misrepresentation of the data.



Printed on 08/19/2014 at 02:04 PM



- Parcels
- NH Highways
- Interstate
- US Highway
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- Town Boundary
- Abutting Towns
- Streets
- Misc Streams
- Parcel Streams
- Open Water
- Buildings

The data shown on this site are provided for informational and planning purposes only. The Town and its consultants are not responsible for the misuse or misrepresentation of the data.

M. Abutter Notification

Abutters of the proposed project have been sent notification letters. The list of abutters is provided below. See attached certified mail receipts and example letter.

Tax Map 82/Lot 17

Kenneth L. Linn
Frances E. Linn
Nancy C. Newton
61 Linden Street
Exeter, NH 03833

Tax Map 82/Lot 18

Exeter Cemetery Association
P.O. Box 29
Exeter, NH 03833

Tax Map 83/Lot 17

Brian A. Fraser
Paula M. Fraser
98 Court Street
Exeter, NH 03833

7007 2680 0002 0924 0227

CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

EXETER NH 03833

Postage	\$ 0.49	0801
Certified Fee	\$3.30	
Return Receipt Fee (Endorsement Required)	\$2.70	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total Postage & Fees	\$ 6.49	

Postmark Here
NOV - 7 2014

Sent To
Exeter Cemetery Association
P.O. Box 29
Exeter, NH 03833

PS Form 3800, August 2006 See Reverse for Instructions

7007 2680 0002 0924 0234

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Certified Fee	\$3.30	
Return Receipt Fee (Endorsement Required)	\$2.70	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total Postage & Fees	\$ 6.49	

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Sent To
Brian A. Fraser
Paula M. Fraser
98 Court Street
Exeter, NH 03833

PS Form 3800, August 2006 See Reverse for Instructions

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KINGSTON NH 03848

Postage	\$ 0.49	0801
Certified Fee	\$3.30	
Return Receipt Fee (Endorsement Required)	\$2.70	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total Postage & Fees	\$ 6.49	

Postmark Here
NOV - 7 2014

To
Southern District YMCA
Camp Lincoln, Inc.
P.O. Box 729
Kingston, NH 03848

PS Form 3800, August 2006 See Reverse for Instructions

7007 2680 0002 0924 0197

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Postage	\$ 0.49	0801
Certified Fee	\$3.30	
Return Receipt Fee (Endorsement Required)	\$2.70	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total Postage & Fees	\$ 6.49	

Postmark Here
NOV - 7 2014

Sent To
Kenneth L. Linn
Frances E. Linn
61 Linden Street
Exeter, NH 03833

PS Form 3800, August 2006 See Reverse for Instructions

7007 2680 0002 0924 0265

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Postage	\$ 0.49	0801
Certified Fee	\$3.30	
Return Receipt Fee (Endorsement Required)	\$2.70	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total Postage & Fees	\$ 6.49	

Postmark Here
NOV - 7 2014

Sent To
Town of Exeter
10 Front Street
Exeter, NH 03833

PS Form 3800, August 2006 See Reverse for Instructions

7007 2680 0002 0924 0258

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EXETER NH 03833

Postage	\$ 0.49	0801
Certified Fee	\$3.30	
Return Receipt Fee (Endorsement Required)	\$2.70	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total Postage & Fees	\$ 6.49	

Postmark Here
NOV - 7 2014

Sent To
Robert Matthews
Anne Matthews
60 Linden Street
Exeter, NH 03833

PS Form 3800, August 2006 See Reverse for Instructions

7007 2680 0002 0924 0289

CERTIFIED MAIL™ RECEIPT
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EXETER NH 03833 **OFFICIAL USE**

Postage	\$ 0.49	
Certified Fee	\$3.30	
Return Receipt Fee (Endorsement Required)	\$2.70	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total P	\$6.49	

Sent To
Town of Exeter
10 Front Street
Exeter, NH 03833

Street, A or PO Box
City, State

PS Form 3800, August 2006 See Reverse for Instructions

7007 2680 0002 0924 0302

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

NEW MARKET NH 03857 **OFFICIAL USE**

Postage	\$ 0.49	
Certified Fee	\$3.30	
Return Receipt Fee (Endorsement Required)	\$2.70	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total P	\$6.49	

Sent To
Contoocook River Lots, LLC
3 Penstock Way
Newmarket, NH 03857

Street, A or PO Box
City, State

PS Form 3800, August 2006 See Reverse for Instructions

7007 2680 0002 0924 0272

CERTIFIED MAIL™ RECEIPT
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For delivery information visit our website at www.usps.com

EXETER NH 03833 **OFFICIAL USE**

Postage	\$ 0.49	
Certified Fee	\$3.30	
Return Receipt Fee (Endorsement Required)	\$2.70	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total P	\$6.49	

Sent To
Marci Linscott
Bonnie Linscott
19 Bow Street
Exeter, NH 03833

Street, A or PO Box
City, State

PS Form 3800, August 2006 See Reverse for Instructions

7007 2680 0002 0924 0296

U.S. Postal Service™
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For delivery information visit our website at www.usps.com

HAMPTON NH 03842 **OFFICIAL USE**

Postage	\$ 0.49	
Certified Fee	\$3.30	
Return Receipt Fee (Endorsement Required)	\$2.70	
Restricted Delivery Fee (Endorsement Required)	\$0.00	
Total P	\$6.49	

Sent To
North Court Street Condominiums, LLC
592 Lafayette Road
Hampton, NH 03842

Street, A or PO Box
City, State

PS Form 3800, August 2006 See Reverse for Instructions



November 6, 2014

Kenneth L. Linn
Frances E. Linn
Nancy C. Newton
61 Linden Street
Exeter, NH 03833

CMA ENGINEERS, INC.
CIVIL/ENVIRONMENTAL ENGINEERS

35 Bow Street
Portsmouth, New Hampshire
03801-3819

Phone: 603/431-6196
Fax: 603/431-5376
E-mail: info@cmaengineers.com
Web Site: www.cmaengineers.com

**Re: Linden Street & Court Street
Culvert Replacement Project
Exeter, NH
Wetlands Application
Tax Map 82/Lot 17
CMA #923**

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Dear Sir or Madam:

On behalf of the Town of Exeter, we are writing this letter to provide notice that a Wetlands Permit Application will be filed with the NH Department of Environmental Services (DES) Wetland Bureau for a Wetlands and Non-Site Specific Permit associated with the above referenced project. The proposed project includes replacing the existing culverts at the Linden Street and Court Street crossings of the Little River with a single span bridge at each location. Removal of the existing culverts will require impacts to wetlands for which a Wetlands Permit is required. As an abutter to a property on which wetland impacts are proposed, we are required to notify you about the application under state law RSA 482-A:3 I (d)(1).

Once it is filed, the permit application, including plans that show the proposed project will be available for viewing at the Town Clerk's Office, 10 Front Street, Exeter or at the NHDES offices by scheduling a file review by calling (603) 271- 8876 or online at <http://www4.egov.nh.gov/DES/FileReview/>.

Should you have any questions, please feel free to call me at (603) 431-6196.

Very truly yours,

CMA ENGINEERS, INC.

Britt E. Audet, P.E.
Project Engineer

BEA:scr

cc: Jay Perkins, Sr., Highway Superintendent, Exeter Public Work Department

N. Permission for Work within 20 feet

The following abutters were notified that impacts to wetlands within 20 feet of their property are proposed. The letter requested that they return acknowledgement of the proposed impacts. Copies of this acknowledgement will be forward to NHDES once received. In addition, temporary construction rights of entry at all quadrants of the bridges will be required for temporary impacts to abutting properties. The Town will secure all access rights prior to construction of the crossing begins.

Tax Map 82/Lot 13

Southern District YMCA Camp Lincoln, Inc.
P.O. Box 729
67 Ball Road
Kingston, NH 03848

Tax Map 82/Lot 14

Robert Matthews
Anne Matthews
60 Linden Street
Exeter, NH 03833

Tax Map 82/Lot 15

Tax Map 83/Lot 54

Town of Exeter
10 Front Street
Exeter, NH 03833

Tax Map 83/Lot 18

Marci Linscott
Bonnie Linscott
19 Bow Street
Exeter, NH 03833

Tax Map 83/Lot 55

North Court Street Condominiums, LLC
592 Lafayette Road
Hampton, NH 03842

Tax Map 95/Lot 67

Contoocook River Lofts, LLC
3 Penstock Way
Newmarket, NH 03857

O. Wetlands Classification Report

VIA EMAIL

August 12, 2014
File No. 04.0190067.00



Mr. William J. Doucet
Doucet Survey, Inc.
102 Kent Place
Newmarket, New Hampshire 03857

Re: Wetland Delineation and Function-Value Assessment Report
Court and Linden Streets
Exeter, New Hampshire

5 Commerce Park North
Suite 201
Bedford
New Hampshire
03110-6984
603-623-3600
FAX 603-624-9463
www.gza.com

Dear Mr. Doucet:

GZA GeoEnvironmental, Inc. (GZA) is pleased to provide this letter report detailing the completion of wetland delineation and a wetland function-value assessment conducted at the Court Street and Linden Street crossings of the Little River (see attached **Figure 1**). This work was performed by State of New Hampshire Certified Wetland Scientists Mr. James Long (#007) and Ms. Tracy Tarr (#281), also Certified Wildlife Biologist, on June 4 and 6, 2014. The purpose of the delineation and function-value assessment was to define and characterize wetland resources within the vicinity of two bridge replacement areas (see attached **Figure 2**). This report is subject to the attached Natural Resource Survey and Assessment Limitations in **Appendix A**.

The wetland delineation was conducted in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual*¹, using the *Routine Determination Method*; in conjunction with the *Regional Supplement*² to the *Corps of Engineers Wetland Delineation Manual*, the 2012 *National Wetland Plant List*³, *Field Indicators of Hydric Soils in the United States Version 7.0*⁴, and *Field Indicators for Identifying Hydric Soils in New England*⁵. Resource boundaries identified by GZA were witnessed in the field with pink and black flagging tape hung periodically on vegetation labeled as follows:

Court St:
A1 - A14 (stop)
B1 - B8 (stop)
(Edge of wetland = Top of Bank)

Linden Street:
C1 - C19 (stop)
D1-D26 (stop)
TOB1 - 7 (stop), TOB 8 - 29 (stop)

¹ Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

² U.S. Army Corps of Engineers, 2011. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0), ed. J.S. Wakeley, R.W. Lichvar, C.V. Noble and J.F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, Mississippi; U.S. Army Engineer Research and Development Center.

³ Lichvar, R.W. 2012. *The National Wetland Plant List*. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory.

⁴ United States Department of Agriculture, Natural Resource Conservation Service, 2010. *Field Indicators of Hydric Soils in the United States*, Version 7.0. Edited by L.M. Vasilas, Soil Scientist, NRCS, Washington, DC; G.W. Hurt, Soil Scientist, University of Florida, Gainesville, FL; and C.V. Noble, Soil Scientist, USACE, Vicksburg, MD in cooperation with the National Technical Committee for Hydric Soils.

⁵ New England Hydric Soils Technical Committee. 2004. 3rd ed. *Field Indicators for Identifying Hydric Soils in New England*, Interstate Water Pollution Control Commission, Lowell, Massachusetts.



In order to support the survey location of the wetland flags, the approximate wetland boundaries were sketched on an aerial overlay provided by CMA Engineers, Inc. The wetland boundary sketch was provided to Doucet Survey, Inc. (DSI) on June 5, 2014 via e-mail and was also reviewed in the field with Mr. Pat Sharkey on April 4, 2014. It should be noted that the sketch is a general spatial reproduction of the locations of the delineated resources and is intended only to aid in the field location of the flags. We understand that DSI survey located wetland flags for wetland permitting plan development purposes.

As part of the wetland delineation field work, wetlands identified on site were classified in accordance with *Classification of Wetlands and Deepwater Habitats of the United States*⁶ and an assessment of potential vernal pool habitat was conducted in accordance with *Identification and Documentation of Vernal Pools in New Hampshire*.⁷ In addition, wetlands were assessed according to the Army Corps Highway Methodology Workbook Supplement.⁸ The functions and values assessed included: groundwater recharge/discharge, floodflow alteration, fish/shellfish habitat, sediment/toxicant retention, nutrient removal, production export, sediment/shoreline stabilization, wildlife habitat, recreation, education/scientific value, visual quality/aesthetics, uniqueness/heritage, and endangered species habitat. Functions and values are considered “principal” if they are determined to be an important physical component of a wetland ecosystem, and/or are considered of special value to society, from a local, regional, and/or national perspective. Functions and values may be considered “capable” or “suitable” if a wetland can provide any given function or value on a limited basis. The rationale for the assignment of functions as principal or capable is based upon professional judgment with guidance provided in a list of considerations outlined in the Army Corps of Engineers methodology. The function-value assessment for each river crossing is presented below.

COURT STREET

The upstream portion of the Court Street bridge crossing is classified principally as a palustrine emergent and aquatic bed system (PEM1/AB3F) that is semi-permanently flooded. This portion of the wetland is impounded by the bridge crossing and lacks a noticeable channel. The downstream portion of the bridge crossing is classified as a riverine, lower perennial system that has an unconsolidated bottom (R2UB). No vernal pools were observed in the vicinity of the bridge crossing.

The tree layer bordering the river is dominated by red maple (*Acer rubrum*), willow (*Salix* spp.), and American elm (*Ulmus americana*). The shrub layer contains a mixture of native plant species including northern arrowwood (*Viburnum dentatum*), silky dogwood (*Cornus amomum*), winterberry holly (*Ilex verticillata*), gray birch (*Betula populifolia*), and red maple (*Acer rubrum*). Invasive plant species present include glossy buckthorn (*Frangula alnus*), multiflora rose (*Rosa multiflora*), and honeysuckle (*Lonicera* spp.). The aquatic bed and marsh areas located upstream support a diversity of plant species including yellow water-lily (*Nuphar advena*), pondweed (*Potamogeton* spp.), bur-reed (*Sparganium* spp.), pickerelweed (*Pontederia cordata*), broadleaf arrowhead (*Sagittaria latifolia*), broad-leaved cattail (*Typha latifolia*), duckweed (*Lemna* spp.), tussock sedge (*Carex stricta*), fringed sedge (*Carex crinita*), jewelweed, sensitive fern (*Onoclea sensibilis*), and horsetail (*Equisetum* spp.). Two invasive

⁶ Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of wetlands and deepwater habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service, Washington, DC. Jamestown, ND, Northern Prairie Wildlife Research Center On line. <http://www.npwrc.usgs.gov/resource/wetlands/classwet/index.htm>.

⁷ New Hampshire Fish and Game Department, Nongame and Endangered Wildlife Program, 2004. 2nd edition. M. Marchand, Ed *Identification and Documentation of Vernal Pools in New Hampshire*.

⁸ U.S. Army Corps of Engineers. 1999. *The Highway Methodology Workbook Supplement*. NAEEP-360-1-30a

plant species, purple loosestrife (*Lythrum salicaria*) and bittersweet, are also present in the herbaceous layer.



View looking westerly at aquatic bed habitat in the river.



View looking westerly toward the Court Street culverts.

As part of the Little River corridor, the wetland system provides a large number of principal functions and values including floodflow alteration, sediment/toxicant retention, nutrient removal, fish habitat, wildlife habitat, and visual aesthetics. The presence of dense emergent cover provides an opportunity for nutrient attenuation and removal during low flow conditions. The wetland is hydrologically connected to the Exeter River and provides a diversity of wildlife habitats. During site assessment work, a variety of wildlife species were observed including bullfrog (*Rana catesbeiana*), red-winged blackbird (*Agelaius phoeniceus*), American robin (*Turdus migratorius*), yellow warbler (*Setophaga petechia*), black-capped chickadee (*Poecile atricapillus*), muskrat (*Ondatra zibethicus*), and beaver (*Castor canadensis*).

The wetland is also suitable for groundwater discharge, production export, sediment/shoreline stabilization, educational/scientific value, recreation and endangered species habitat. The bridge is located upstream of a public boat ramp and the river corridor provides educational opportunities and passive recreation opportunities such as kayaking, fishing, and wildlife viewing.

RARE SPECIES

Based on a review by the New Hampshire Natural Heritage Bureau (NHB) (see attached **NHB Memo NHB14-2033** dated June 6, 2014), the existing Court Street bridge is within the vicinity of a documented American eel (*Anguilla rostrata*) population and documented Blanding's turtle (*Emydoidea blandingii*) locations. The American eel is listed as a State Special Concern species and the Blanding's turtle is a State Endangered species. Both species were observed downstream in the Exeter River corridor.

American eel spawn in the Sargasso Sea and migrate to fresh water as approximately one year old juveniles called elvers. Elvers then spend approximately 10 to 40 years in freshwater riverine systems before returning to salt water to spawn. Due to their complex life cycle, American eels are susceptible to habitat loss created by migration barriers such as dams.

Blanding's turtles utilize a variety of wetland habitats for feeding, breeding, and overwintering including marshes, scrub-shrub wetlands, beaver flowages, rivers, and vernal pools. Females may also travel as far as 1 km within uplands and wetlands to find suitable nesting sites in dry exposed upland soil. Blanding's turtles are susceptible to habitat loss, habitat fragmentation, and

unnatural mortality levels created by collisions with cars, predation from pets, and loss through the illegal pet trade.

Although habitat for both species is present in the vicinity of the bridge area, the NH Fish and Game Department Nongame Department determined that they do not expect impacts to either species as a result of the project construction (see attached correspondence from Ms. Kim Tuttle e-mail dated June 24, 2014). The current proposal is to replace three pipe arches with a single span structure. As a result, the project will actually improve habitat connectivity and resulting aquatic life passage. To minimize potential impacts during construction, the Marine Program requests additional information on the construction schedule (see attached correspondence e-mail dated June 24, 2014 from Ms. Cheri Patterson of the Marine Program). Diadromous fish (i.e. fish that migrate between fresh and salt water) are expected to migrate between March and June and emigrate anywhere from August to December. CMA Engineers, Inc. indicated that the Town of Exeter would likely seek to avoid construction during the school year when buses require access to the bridge. As a result, construction from late June into July would serve to avoid impacts to diadromous fish. To further reduce potential impacts on wildlife, the Nongame Program has requested that the Town avoid the use of welded plastic or 'biodegradable' erosion control netting, and instead utilize a woven organic material (e.g. coco matting) where matting is required, to limit mortality in snakes which are known to become entangled in plastic netting. However, the project itself benefits a variety of species by better matching the width of the natural stream channel, and by accommodating more natural high and low flows.



View of muskrat observed at Court Street.



View of larval dragonfly exoskeleton at Court Street.

LINDEN STREET

The channel portion of the wetland at the Linden Street bridge project is classified as a riverine, lower perennial system with an unconsolidated bottom (R2UB). The substrate of the channel is dominated by silty muck and scattered cobbles. The edges of the channel are bordered by dense palustrine emergent and scrub shrub wetland areas that are seasonally saturated or flooded (PEM/SS1E) and semi-permanently flooded (PEM1F). No vernal pools were observed within the immediate vicinity of the bridge replacement area.

The edges of this wetland system contain scattered trees and the tree layer of this wetland system is dominated by red maple, American elm, pin cherry (*Prunus pensylvanica*), willow, and ash (*Fraxinus americana*). The scrub-shrub portions of the wetland contain a diversity of shrub species including serviceberry (*Amelanchier* spp.), speckled alder, common elderberry (*Sambucus nigra*), meadowsweet (*Spiraea latifolia*), silky dogwood, willow, northern arrowwood, and wild raisin (*Viburnum cassinoides*). Two invasive plants, multiflora rose and

honeysuckle, were also observed. Plant species present in the herbaceous layer included sensitive fern, broad-leaved cattail, narrow-leaved cattail (*Typha angustifolia*), tussock sedge, fringed sedge, boneset (*Eupatorium perfoliatum*), jewelweed, northern arrowhead, pickerel weed, blunt spikerush (*Eleocharis obtusa*), green bulrush (*Scirpus atrovirens*), and goldenrod (*Solidago* spp.).



View of Linden Street culverts looking westerly.



View of Little River looking easterly from Linden Street.

The Little River wetland system at Linden Street provides five principal functions including floodflow alteration, fish habitat, production export, sediment/shoreline stabilization, and wildlife habitat. The wetland is also suitable for sediment/toxicant retention, nutrient removal, and visual aesthetics. The channel is bordered by dense emergent vegetation which is stabilizing the stream banks. The floodplain is relatively wide and the bordering emergent and scrub-shrub edges serve to slow and detain river flows during storm events. Similar to other areas of the Little River corridor, wildlife use is high due to the presence of riverine and diverse wetland habitats. During site assessments, GZA observed gray catbird (*Dumetella carolinensis*), yellow warbler, northern mockingbird (*Mimus polyglottos*), red-winged blackbird, song sparrow (*Melospiza melodia*), mourning dove (*Zenaida macroura*), and common yellowthroat (*Geothlypis trichas*) in the wetland. These birds nest and forage in emergent and scrub-shrub habitats. Minnows and green frog (*Rana clamitans*) were observed in the channel. A variety of mammals utilize the river for food and cover, and raccoon (*Procyon lotor*) tracks were observed on the edges of the river. However, NHB did not have any records of rare species or exemplary communities near the Linden Street bridge replacement area (see attached NHB memo NHB14-2008 dated June 2, 2014).



View of raccoon tracks on the edge of the river channel.



View of emergent areas utilized by red-winged blackbirds.

The project includes replacement of the existing 12-foot corrugated metal pipe structures with a single span structure approximately 55-feet in length. This will serve to improve fish habitat, wildlife habitat, and production export functions of the wetland system by accommodating the natural channel width of the Little River and improving aquatic passage.



NHDES TIER STATUS

Based on watershed size, location in FEMA flood zones, and documentation of rare species, both bridge locations are considered Tier 3 Stream Crossings by NHDES and are subject to the permitting requirements outlined in New Hampshire Code of Administrative Rules Env-Wt 904.01, 904.04, 904.05, and 904.08. For permitting purposes, a formal pebble count and geomorphic assessment may be required by the NHDES Wetlands Bureau. GZA can provide a proposal for this work upon your request.

Please feel free to contact Ms. Tracy Tarr at (603) 235-6992 if you have any questions or if further information is required.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in black ink, appearing to read 'Tracy Tarr', with a horizontal line extending to the right.

Tracy L. Tarr, CWS, CWB, CESSWI
Assistant Project Manager

A handwritten signature in black ink, appearing to read 'Ronald A. Breton', written in a cursive style.

Ronald A. Breton, P.E.
Senior Principal

A handwritten signature in black ink, appearing to read 'Deborah M. Zarta Gier', written in a cursive style.

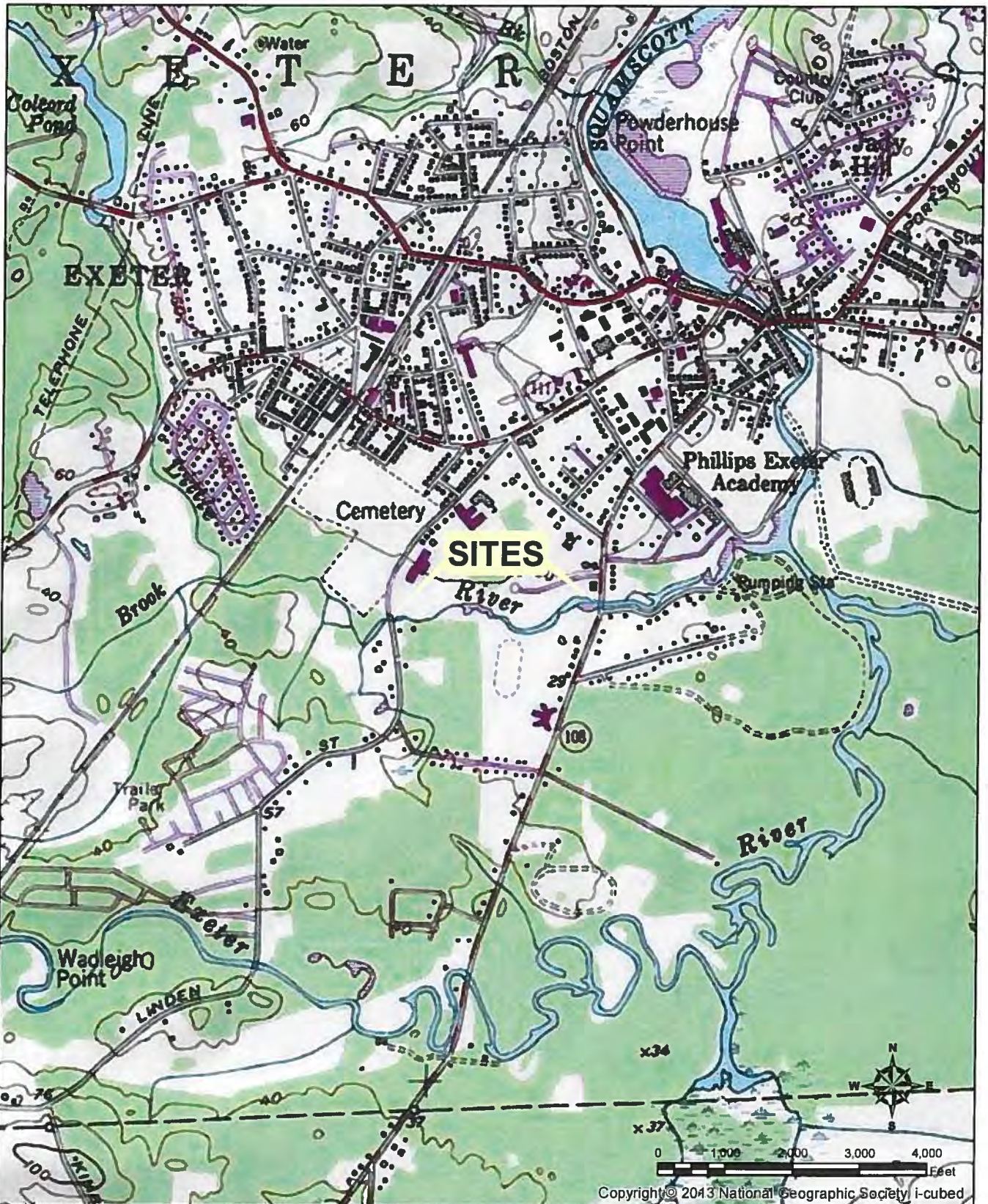
Deborah M. Zarta Gier, CNRP
Consultant Reviewer

TLT/RAB/DMZ:mm

P:\04Jobs\0190000s\04.0190067.00\Work\Wetland Letter Report\final 190067 Report 081214.docx

Attachments: Locus Plan
Aerial Locus Plan
NHB Memo #NHB14-2008
NHB Memo #NHB14-2033
E-mail Correspondence from the NH Fish and Game Dept.
Natural Resource Survey and Assessment Limitations

cc: Mr. Jason Gallant, CMA Engineers, Inc.



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WETLAND DELINEATION COURT STREET & LINDEN STREET CULVERTS EXETER, NEW HAMPSHIRE	
LOCUS PLAN	


NO.	ISSUE / DESCRIPTION	BY	DATE
PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: DOUCET SURVEY, INC. NEWMARKET, NEW HAMPSHIRE	
PROJ MGR: TLT DESIGNED BY: MJD DATE: MAY 2014	REVIEWED BY: JCM DRAWN BY: MJD PROJECT NO: 04.0190067.00	CHECKED BY: DMZ SCALE: 1 inch = 2,000 feet REVISION NO:	FIGURE 1



© 2014 - GZA GeoEnvironmental, Inc. P:\04\jobs\029400s\04_0029472_00\Figures-CAD\GIS\locusPlan_Aerial.mxd, 6/4/2014, 1:30:13 PM, matthew.deama

Source: Esri, DigitalGlobe, GeoEye, Earthstar, USDA, USGS, AEX, Geomatics, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR THE USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

<p align="center">WETLAND DELINEATION COURT STREET & LINDEN STREET CULVERTS EXETER, NEW HAMPSHIRE</p>		<p>PREPARED BY:  GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com</p>	<p>PREPARED FOR: DOUCET SURVEY, INC. NEWMARKET, NEW HAMPSHIRE</p>
<p align="center">AERIAL LOCUS PLAN</p>		<p>PROJ MGR: TLT REVIEWED BY: JCM CHECKED BY: DMZ</p> <p>DESIGNED BY: MJD DRAWN BY: MJD SCALE: 1 inch = 2,000 feet</p> <p>DATE: JUNE 2014 PROJECT NO: 04.0190067.00 REVISION NO:</p>	<p align="center">FIGURE 2</p>



To: Matthew Deane
380 Harvey Road
Manchester, NH 03103

Date: 5/30/2014

From: NH Natural Heritage Bureau

Re: Review by NH Natural Heritage Bureau of request dated 5/30/2014

NHB File ID: NHB14-2008

Applicant: Town of Exeter- Public Works

Location: Tax Map(s)/Lot(s):
Exeter

Project Description: Town of Exeter is proposing a culvert replacement

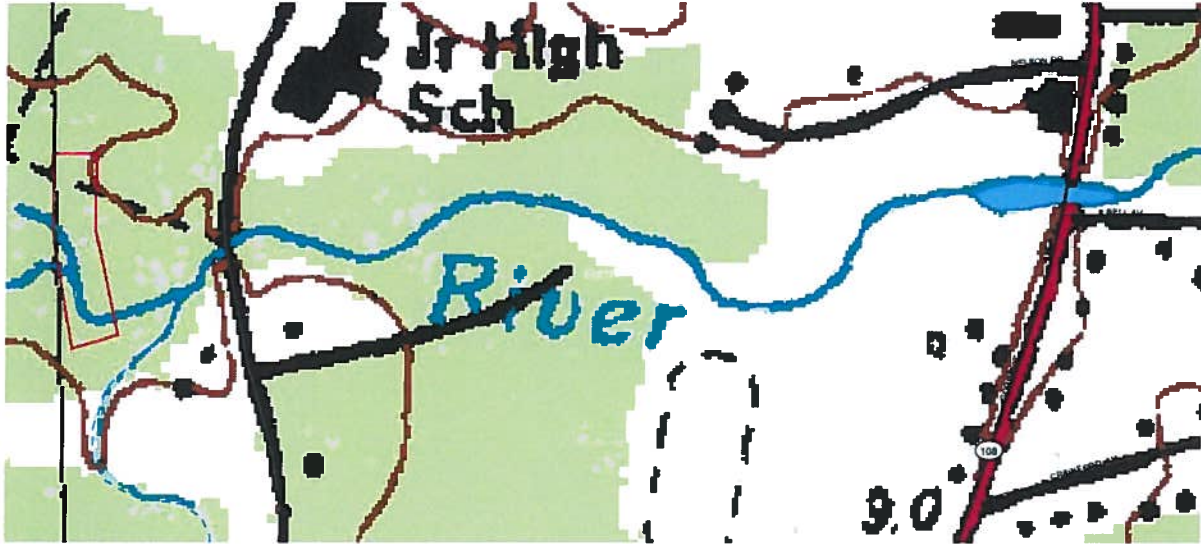
The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

This report is valid through 5/29/2015.



MAP OF PROJECT BOUNDARIES FOR NHB FILE ID: NHB14-2008



Memo



NH NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

To: Matthew Deane
380 Harvey Road
Manchester, NH 03103

From: Melissa Coppola, NH Natural Heritage Bureau
Date: 6/6/2014 (valid for one year from this date)
Re: Review by NH Natural Heritage Bureau
NHB File ID: NHB14-2033
Description: Culvert replacement
cc: Kim Tuttle

Town: Exeter
Location: 99 Court Street

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments:

Vertebrate species

	State ¹	Federal	Notes
American Eel (<i>Anguilla rostrata</i>)	SC	--	Contact the NH Fish & Game Dept (see below).
Blanding's Turtle (<i>Emydoidea blandingii</i>)	E	--	Contact the NH Fish & Game Dept (see below).

¹Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (*) indicates that the most recent report for that occurrence was more than 20 years ago.

Contact for all animal reviews: Kim Tuttle, NH F&G, (603) 271-6544.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
PO Box 1856
Concord NH 03302-1856

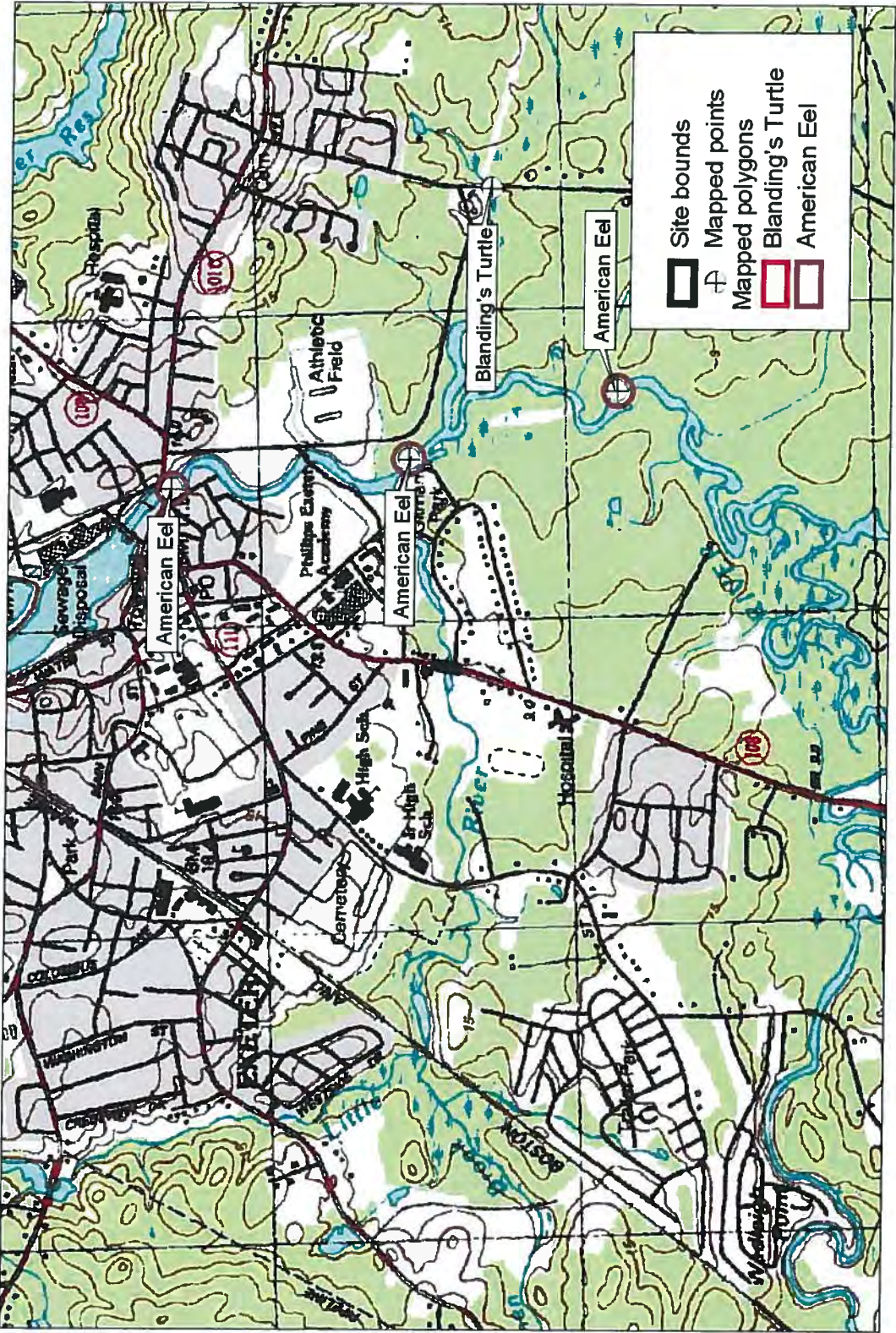
NHB14-2033



NH NATURAL HERITAGE BUREAU

Known locations of rare species and exemplary natural communities

Note: Mapped locations are not always exact. Occurrences that are not in the vicinity of the project are not shown.



*Historical record

1:18000

Valid for one year from this date 06 Jun 2014

New Hampshire Natural Heritage Bureau - Animal Record

American Eel (*Anguilla rostrata*)

Legal Status

Federal: Not listed
 State: SC

Conservation Status

Global: Apparently secure but with cause for concern
 State: Rare or uncommon

Description at this Location

Conservation Rank: Not ranked
 Comments on Rank:

Detailed Description: 2008: Area 13324: 15 observed.

General Area:

General Comments:

Management

Comments:

Location

Survey Site Name: Great Brook-Exeter River
 Managed By:

County: Rockingham

Town(s): Exeter

Size: 1.9 acres

USGS quad(s): Exeter (4207088)

Lat, Long: 425851N, 0705638W

Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2008: Exeter River

Dates documented

First reported: 2008-08-29

Last reported: 2008-08-29

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

American Eel (*Anguilla rostrata*)

Legal Status

Federal: Not listed
State: SC

Conservation Status

Global: Apparently secure but with cause for concern
State: Rare or uncommon

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2008: Area 13325: 9 observed.

General Area:

General Comments:

Management

Comments:

Location

Survey Site Name: Great Brook-Exeter River
Managed By: Gilman Park

County: Rockingham

Town(s): Exeter

Size: 1.9 acres

USGS quad(s): Exeter (4207088)

Lat, Long: 425826N, 0705634W

Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2008: Exeter River

Dates documented

First reported: 2008-08-29

Last reported: 2008-08-29

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

American Eel (*Anguilla rostrata*)

Legal Status

Federal: Not listed
State: SC

Conservation Status

Global: Apparently secure but with cause for concern
State: Rare or uncommon

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2008: Area 13326: 13 observed.

General Area:

General Comments:

Management

Comments:

Location

Survey Site Name: Great Brook-Exeter River
Managed By: Phillips Exeter Academy Land

County: Rockingham

Town(s): Exeter

Size: 1.9 acres

USGS quad(s): Exeter (4207088)

Lat, Long: 425804N, 0705625W

Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2008: Exeter River

Dates documented

First reported: 2008-08-29

Last reported: 2008-08-29

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

Blanding's Turtle (*Emydoidea blandingii*)

Legal Status

Federal: Not listed
State: Listed Endangered

Conservation Status

Global: Apparently secure but with cause for concern
State: Critically imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Good quality, condition and landscape context ('B' on a scale of A-D).
Comments on Rank:

Detailed Description: 2007: Area 11793: Female laying eggs.
General Area: 2007: Area 11793: Wetlands on both sides of the road.
General Comments:
Management
Comments:

Location

Survey Site Name: Great Meadows
Managed By: Phillips Exeter Academy Land

County: Rockingham
Town(s): Exeter
Size: .4 acres

USGS quad(s): Exeter (4207088)
Lat, Long:
Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2007: Area 11793: Shoulder of Drinkwater Road where it crosses the outlet stream of The Cove.

Dates documented

First reported: 2007-06-11
Last reported: 2007-06-11

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.



NATURAL RESOURCE SURVEY AND ASSESSMENT LIMITATIONS

Use of Report

1. GZA GeoEnvironmental, Inc. (GZA) has prepared this report on behalf of, and for the exclusive use of Doucet Survey, Inc. ("Client") for the stated purpose(s) and location(s) identified in the report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not identified in the agreement, for any use, without our prior written permission, shall be at that party's risk, and without any liability to GZA.

Standard of Care

2. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Report and/or proposal, and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the data gathered and observations made during the course of our work. Conditions other than described in this report may be found at the subject location(s).
3. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made.

Limits to Observations

4. Natural resource characteristics are inherently variable. Biological community composition and diversity can be affected by seasonal, annual or anthropogenic influences. In addition, soil conditions are reflective of subsurface geologic materials, the composition and distribution of which vary spatially.
5. The observations described in this report were made on the dates referenced and under the conditions stated therein. Conditions observed and reported by GZA reflect the conditions that could be reasonably observed based upon the visual observations of surface conditions and/or a limited observation of subsurface conditions at the specific time of observation. Such conditions are subject to environmental and circumstantial alteration and may not reflect conditions observable at another time.
6. The conclusions and recommendations contained in this report are based upon the data obtained from a limited number of surveys performed during the course of our work on the site, as described in the Report. There may be variations between these surveys and other past or future surveys due to inherent environmental and circumstantial variability.

Reliance on Information from Others

7. Preparation of this Report may have relied upon information made available by Federal, state and local authorities; and/or work products prepared by other professionals as specified in the report.

June 2012

Unless specifically stated, GZA did not attempt to independently verify the accuracy or completeness of that information.

Compliance with Regulations and Codes

8. GZA's services were performed to render an opinion on the presence and/or condition of natural resources as described in the Report. Standards used to identify or assess these resources as well as regulatory jurisdiction, if any, are stated in the Report. Standards for identification of jurisdictional resources and regulatory control over them may vary between governmental agencies at Federal, state and local levels and are subject to change over time which may affect the conclusions and findings of this report.

New Information

9. In the event that the Client or others authorized to use this report obtain information on environmental regulatory compliance issues at the site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this work, may modify the conclusions stated in this report.

Additional Services

10. GZA recommends that we be retained to provide further investigation, if necessary, which would allow GZA to (1) observe compliance with the concepts and recommendations contained herein; (2) evaluate whether the manner of implementation creates a potential new finding; and (3) evaluate whether the manner of implementation affects or changes the conditions on which our opinions were made.

P. Stream Crossing Requirements

The proposed crossings meet the General Design Considerations for all stream crossings as follows:

Env-Wt 904.01 General Design Considerations

a. *Not be a barrier to sediment transport.*

Replacing the existing culverts with a full span structure will not add barriers to sediment transport. Following removal of the existing culverts and embankment, the channel bottom will be regraded to match into the existing upstream and downstream bottom elevations.

b. *Prevent the restriction of high flows and maintain existing low flows.*

The proposed structures will provide an increase in hydraulic capacity over the existing crossings and therefore not impose a flow restriction.

c. *Not obstruct or otherwise substantially disrupt the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction.*

The proposed crossings will not obstruct the movement of aquatic life. The proposed crossing will provide full width crossings, improving conditions for passage of aquatic life.

d. *Not cause an increase in the frequency of flooding or overtopping of banks.*

The proposed structure will increase hydraulic capacity at the crossings and will not increase the frequency of flooding.

e. *Preserve watercourse connectivity where it currently exists.*

The proposed crossing will preserve existing watercourse connectivity. A change to existing connectivity is not proposed.

f. *Restore watercourse connectivity where:*

- a. *Connectivity previously was disrupted as a result of human activity(ies); and*
- b. *Restoration of connectivity will benefit aquatic life upstream or downstream of the crossing;*

The proposed crossings will improve watercourse connectivity by providing full width crossing and removing the existing embankment, thereby removing existing barriers to upstream and downstream connectivity.

g. *Not cause erosion, aggradation, or scouring upstream or downstream of the crossing;*

The proposed project includes installation of rip rap along the proposed bridge abutments that will serve as scour prevention and prevent erosion of the proposed river bank.

h. *Not cause water quality degradation;*

The proposed project involves replacing existing deteriorated culverts with a full bank width crossing. A full bank width crossing will provide an improved crossing configuration over the existing culverts. The new crossings will be constructed with erosion and sediment controls that will prevent water quality degradation during construction.

The Linden Street crossings is planned for construction during 2015 and the Court Street crossing is planned for 2016. The roadways will be closed to traffic during construction of the new crossing which will allow for a single construction phase. A water diversion structure will be used during removal of the existing culverts and embankment and construction of the bridge abutments. Pumps will be used to maintain flow from the upstream side of the crossing to the downstream side during construction.

Both of the proposed crossings are considered Tier 3 crossings due to the size of their watershed, location within the floodplain and vicinity to prime wetlands. An alternative design is requested for the requirement the crossings be sized 1.2 times the bank full width. As proposed, the new crossings will provide a full width crossing that is a significant improvement from the existing culverts. However, complying with the requirement for 1.2 times bank full width would result in larger bridge spans that would be prohibitively more expensive for the Town and require significant impacts to private property. The proposed alternative meets the requirements of Env-Wt 904.05 as follows:

Env-Wt 904.05 Design Criteria for Tier 2 and Tier 3 Stream Crossings

- a) *In accordance with the NH Stream Crossing Guidelines, University of New Hampshire, May 2009,...;*

We are seeking an alternative design from the requirement in this document that requires the crossing be sized to 1.2 times the bank full width. The width of the Little River upstream of both crossings is a wide wetland complex, and as such, installing a crossing to greater than bank full width is not practicable. A hydraulic analysis of the proposed structures has been completed which concluded that the proposed structure will sustain the 100-year storm event without overtopping the road.

- b) *With the bed forms and streambed characteristics necessary to cause water depths and velocities within the crossing structure at a variety of flows to be comparable to those found in the natural channel upstream and downstream of the stream crossing;*

Construction of the proposed crossings will include removing the existing culverts and embankment. The river bottom will be regraded to match into existing river bottom elevations upstream and downstream of the culverts. A natural bottom channel is proposed, with stone fill placed on the embankments to protect the bridge abutments.

- c) *To provide a vegetated bank on both sides of the watercourse to allow for wildlife passage;*

The river bank under the bridge will have stone slope protection to protect the abutments from scour. Each crossing has a 3 ft wide bench along the top of the stone protection on either side of opening that wildlife can use to move through the opening. All other bank impacts will be loamed and seeded.

- d) *To preserve the natural alignment and gradient of the stream channel, so as to accommodate natural flow regimes and the functioning of the natural floodplain;*

The proposed crossings are in line with existing culvert crossings. The proposed river bed grading will match in to the existing elevations upstream and downstream of the crossing.

e) To accommodate the 100-year frequency flood, to ensure that:

1) There is no increase in flood stages on abutting properties; and

The hydraulic capacity of each of the proposed crossings is greater than that of the existing culverts. Accordingly, the hydraulic analysis indicates that flood elevations will be lower following installation of the proposed crossings.

2) Flow and sediment transport characteristics will not be affected in a manner which could adversely affect channel stability;

The opening of the proposed crossings are wider than that of the existing culverts. The increase in hydraulic capacity will not impact flow and sediment transport characteristic that could affect channel stability.

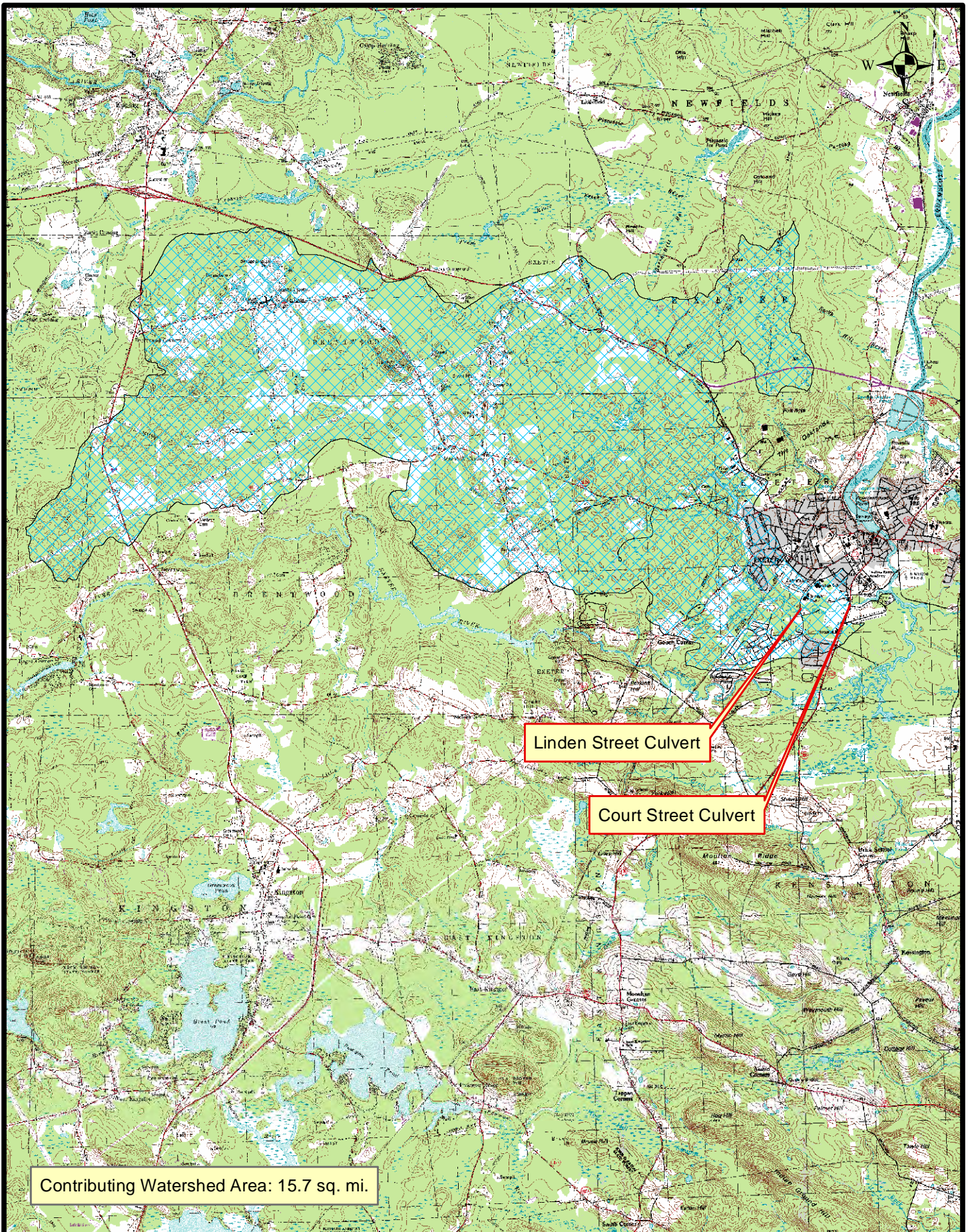
f) To simulate a natural stream channel; and

The proposed crossings will have natural bottom channels.

g) So as not to alter sediment transport competence.

The opening of the proposed crossings are wider than that of the existing culverts. The proposed crossing will have natural stream bed elevations that allow for natural sediment transport.

Other stream crossing information requirements are presented on the plans in Section K.



Contributing Watershed Area: 15.7 sq. mi.

Linden Street Culvert

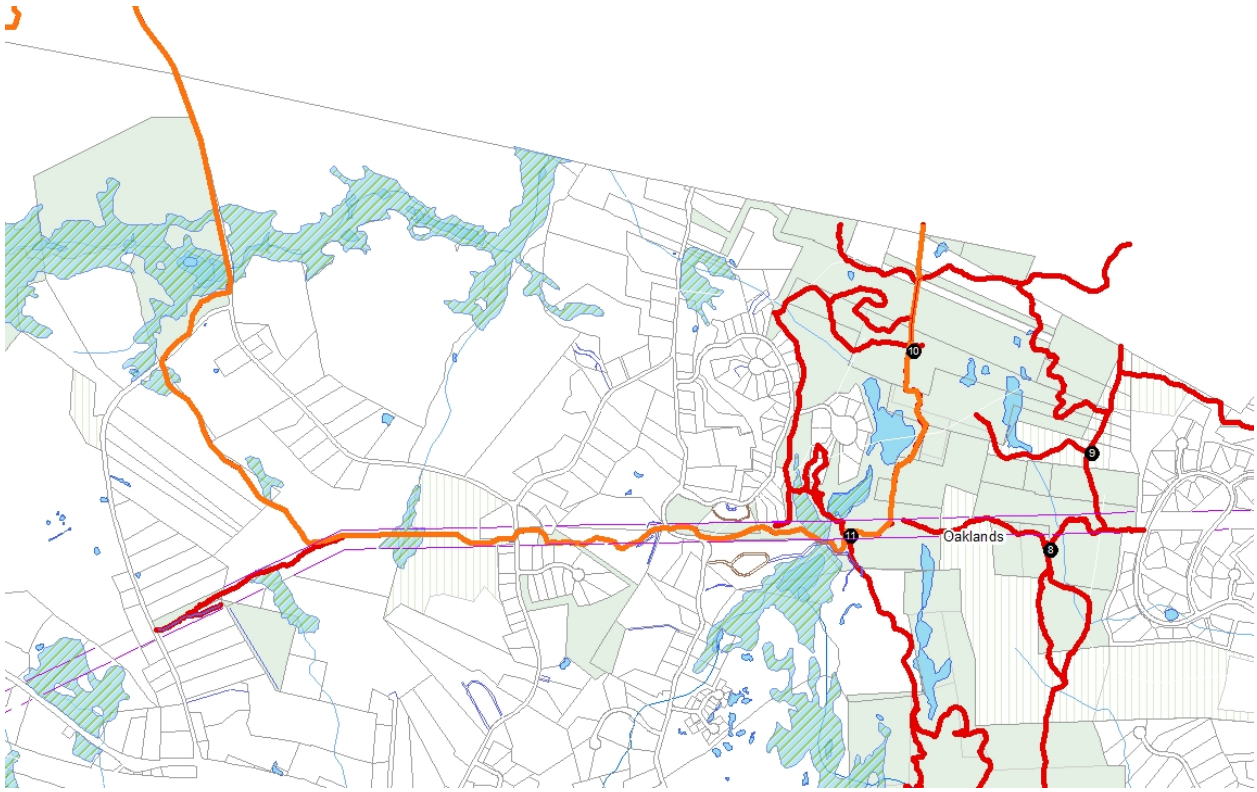
Court Street Culvert

0 2,000
Feet

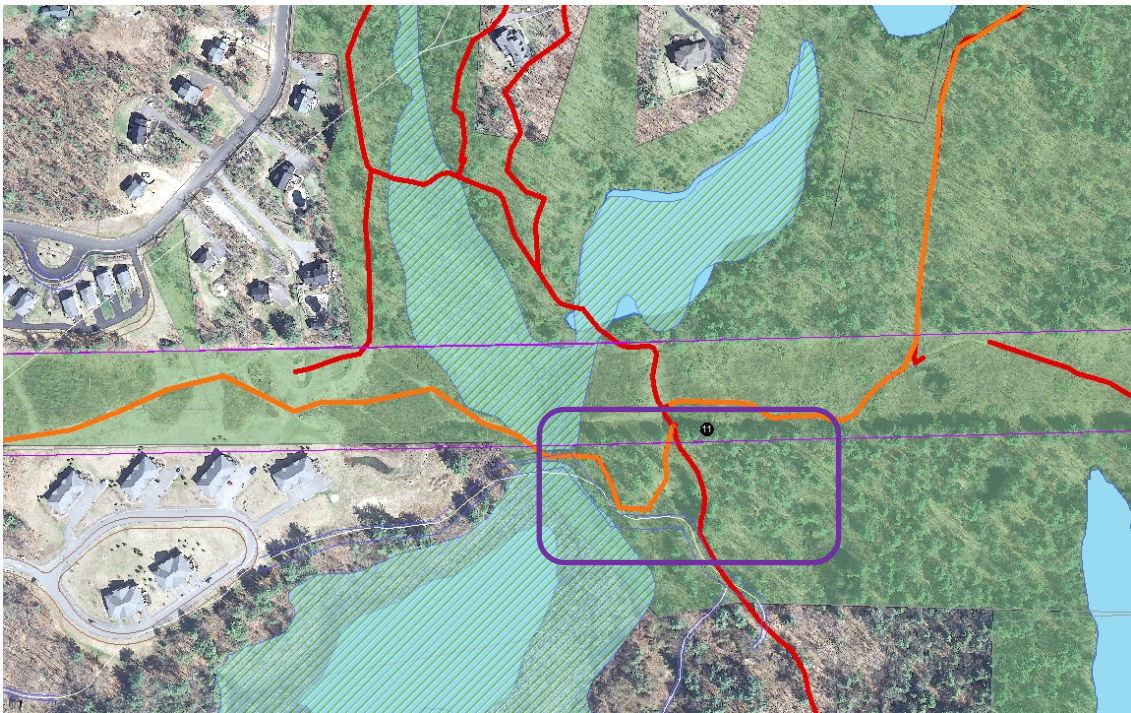


Linden Street & Court Street
Culvert Replacement Project
Contributing Watershed₈₈
Exeter, NH

Snowmobile Trail – Exeter Snowhounds – In Orange



Section Of Trail Near The Elliott Property The Snow Hounds Would Like To Re-Route (Purple)



**Exeter Conservation Commission
October 14, 2014**

Call to Order

Chairman Jay Gregoire recalled the meeting to order at 7:00 pm in the Nowak Room of the Town Office building.

Member Introduction:

Don Briselden, Carlos Guindon, Pete Richardson, Bill Campbell, Ginny Raub, Board of Selectman representative, Anne Surman and Natural Resource Planner, Kristen Murphy.

Action Item

1. Minimum Impact Expedited Wetland Permit for the “in kind” replacement of the seawall associated with the Phillips Wharf Condominium Association at 137R Water Street, Exeter (Tax Map 72, Lot 20) within the Tidal Buffer Zone.

Members were provided copies of the Expedited Wetland Permit Application as prepared by Mr. Steven Riker, a NH Certified Wetland Scientist, of Sandpiper Environmental Services, LLC. The application requests to permit 82 sq. ft. of permanent and 700 sq. ft. of temporary construction impacts within the previously developed 100’ Tidal Buffer Zone. Photographs of the present condition of the wall were also distributed to the members.

Mr. Riker introduced Mr. Rick Hartman who would be doing the on-site construction. Referencing the construction plan, he explained the existing stone would be removed down to the footing which he felt was strong. The work would be done at low tide and all materials would be removed from site. A silt barrier would be put in place to prevent any exfiltration of material behind the wall. The placement of the new stones would be tilted back to counteract the forces of gravity. He did ascertain the new wall would be the same height as present wall and there was no provision to modify for anticipated higher tides.

The Chair reviewed the options for this application. By voting to accept, the Commission waives the right to intervene; by voting against (the application) the applicant would need to complete the more extensive wetland permit. Mr. Campbell moved to approve the Expedited Wetland Permit application; seconded by Mr. Briselden. Motion carried with Mr. Richardson opposed.

2. Approval of Minutes.
Mr. Gregoire asked for the change of a road name stated under the Trails report. Mr. Richardson moved to accept minutes with correction; seconded by Mr. Guindon. Motion carried with Ms. Surman and Ms. Raub abstaining as they were not present for that meeting.
3. Treasurer’s Report

Ms. Raub, Treasurer, distributed copies of the financial report. The dollar amounts listed were explained and discussed. Mr. Guindon moved to accept the Treasurer's report; seconded by Mr. Campbell. Motion carried.

4. Expenditure requests

A quote of \$350.00 was received for the cleaning of the Raynes Barn by the Yeti Landcare Co. The owner, Mr. Keith Whitehouse, is an Exeter resident and trail user and wanted to help the Commission with this task. With clarification on the Town's bidding procedure, Mr. Gregoire felt a certificate of insurance was needed to be provided before accepting the bid.

Mr. Campbell moved to approve up to \$350.00 to Yeti Landcare Services for the cleaning of the Raynes Barn. The Chair wished to add *with proof of general liability insurance* to the motion which Mr. Campbell accepted. Motion seconded by Mr. Briselden. Motion carried

Ms. Murphy stated the Raynes barn door is being constructed by the students at the Seacoast School of Technology (SST) but because of extenuating circumstances it was not able to be completed last year. The funds were approved in the 2013-14 budget and carried over to the current budget. Having received an invoice for purchase of the lumber it appears to be underway but the students will not be able to install. Mr. Kevin Smart of DPW stated a contractor will be needed to install the door.

Recognizing a member of the public was in the audience The Chair asked if there was any public comment at this time. There being none, the Chair entertained a motion to close the public meeting and enter into a non-public work session. Ms. Surman so moved; seconded by Mr. Richardson. Motion carried.

Public meeting adjourned at 7:40 pm.

Work Session

1. Timber harvest

Mr. Briselden spoke of the forest management plan the Commission had prepared by forester Charlie Morenosome of years ago, but for a number of circumstances it has not gone forward. He asked if the Commission wants to commit to a winter of 2015 harvest and what are the steps necessary to accomplish this; nothing to commit to at this meeting. Perhaps a meeting should take place with Commission members, Ms. Murphy and Mr. Moreno and relay the ECC is committed to the project for winter of 2015. And what is it we need to do make it happen; does plan need to be refreshed. Mr. Guindon, Mr. Briselden and Mr. Richardson expressed a willingness to be included in such meeting.

There is no need to budget monies in next year's account but pretreating the invasive plant species in the area and widening the existing logging road for better access to the 30 designated acres might need to be considered/included.

It was acknowledged this will be a very visible project and public education will be necessary to advise the public when and why the logging project is being done.

2. Open Space Committee (OSC)

Mr. Briselden noted a vote was taken several months ago to re-activate the Open Space Committee but did not proceed to solicit members. He conceded it probably occupied a lower priority with the Commission but he would like to keep it visible. He explained this is unlike the former OSC when it was a committee appointed by the BOS to implement the spending of the three million dollars approved for land acquisition. This group is to focus more on stewardship and its members need not be members of the Commission; just have an interest in helping to maintain the Town's natural resources.

Along with posting notices on ECC page on Town website, and Facebook page, Ms. Surman suggested bringing signup sheets to public forums such as the Fall Chili Fest.

3. Raynes Farm Management Plan (RFMP)

Ms. Murphy summarized the management plan for the property is in place, but with the Town voters approving the new roofing and future cleaning of the barn perhaps with this renewed interest in the barn it might be the time to revisit the goals for barn and schedule a meeting of the Raynes Barn Stewardship Committee.

Mr. Briselden stated the original plan was drawn up in 2007 after some major work was done to barn structure and there remains other structural work. But of importance is what the vision for the uses of the barn is in the coming years so we are able to move in that direction. Mr. Briselden suggested members receive a copy of the 2007 plan, noting what has been done since it last updated in 2011 and submit suggestions. The MP is for the area as a whole but focuses on the barn.

Mr. Guindon spoke of the old railroad bed on site which is now incorporated into the trail system; would like to see it incorporated into the history of the site. He questioned if it is worth approaching railroad company to release the rights to the Town.

Nate Merrill, the tenant farmer at Raynes, told Ms. Murphy of a program the Stratham Heritage Commission is hosting in February. A noted historian on New England barns will be the speaker and suggested the Exeter Heritage Commission partner with the Stratham group on this event and include photos of the Raynes and other town barns to highlight for the event. Ms. Murphy advised the Exeter Heritage Commission and is unsure who should pursue: ConCom or Heritage group.

Mr. Richardson spoke on seeking funding from outside sources; feels more than Ms. Murphy should be involved. He had hoped he could do more; invited others to be of assistance to him and Ms. Murphy. Going forward, Ms. Murphy added she would

perhaps like a work session to seek input and dollar amounts when preparing the next year's budget.

4. Trail Issues

Un-permitted wetland crossings

One issue facing the Commission is the un-permitted wetland crossings on the red trail off of the Watson entrance in the Oakland Town Forest. Going back, these crossings were to be removed by the developer when the housing development was in the planning process but was not. They have been there for some time and calls are now being received on their safety. Mr. Gregoire was advised one has been stabilized by a trail user, but the question remains; should they be removed because of the wetlands. Because they are heavily used, do we acknowledge the critical link and hire a consultant to go through the permitting process. Ms. Murphy noted because they are crossing a prime wetland the process would be more involved going through a DES permitting process

Research determined DES required the bridges come out and subsequently the Planning Board approval referenced compliance with the DES recommendations. Discussion on how do you undo a Planning Board decision and what would be the consequences of removal. If removed, the bikers might need to find alternate routes but felt the bridges would re-appear. Mr. Briselden added because of all the trail work the bikers have done in the past and their support in acquiring the Elliot property there is the need to find that balance.

Mr. Guindon felt the process of permitting should be explored; what is procedure and cost and then make a decision. He is very familiar with that area and would want to know if it can be done and not impact the wetlands.

Mr. Briselden summarized from the discussion the steps needed for resolution; to be determined is who bears the expense; may eventually be the developer if ordered to remove.

Trail patrols

Mr. Gregoire spoke of Jason Fritz, an Exeter fire fighter and president of the New England Mountain Bike Association (NEMBA) patrol group, coming to the Commission to speak on an arrangement for their group to patrol the trails in the Town Forest noting obstacles and/or safety concerns on the trails. They will also be equipped to help any trail user in need of assistance. They in turn will relay any safety issues back to the Trails Committee for action if needed.

There is also the potential for them to GPS the trails and provide feedback to import into one global GPS system and that in turn to be given to Town emergency responders if needed. Mr. Gregoire, from personal experience, suggested using the Strava app that tracks running and cycling experiences and data from a GPS device.

Trail blazing

Mr. Gregoire reported he has a group of volunteers ready to do blaze work in the Oakland. The technique was discussed and Mr. Briselden suggested, if possible, using fluorescent/reflective paint to prevent night users from adding their own markings.

Other trails in need of attention

Mr. Richardson spoke of the work he recently did at the entrance to the Morrisette property going in from the SST parking lot. It was overgrown and the invasive, bittersweet, is very prevalent.

Ms. Murphy reported on the Eagle Scout project to build bridges/connectors into the Morrisette property from the Court St./skateboard entrance. She met with the Scout following the completion of the project but failed to convey her disappointment at the results. The question raised is how are we, the Commission, to handle such projects as this is not the first experience. It is apparent there is guidance needed and that the scout leaders are often not always able to provide. But this is not the responsibility of the Commission. It was agreed there is the need to be more explicit in future projects in letting the scout and the leaders know the procedure. Although the ECC is very appreciative of the time and effort that goes into a project, but if the final project is not what was presented and approved and does not meet the needs of the Commission there can't be a final letter of approval. For this project, a letter will be sent to the scout stating based on feedback from the ECC members, the Commission is not ready to approve the project.

Mr. Briselden wished to share what he has observed recently and that is the change in width in what used to be a "trail" that now has grown in width to become a "street"; all in the span from the spring to this fall. It appears it is from increased usage and perhaps other users are not in tune with trail protocol. It was suggested the brush from the logging project be used to close off some of the braided trails and allowed to re-vegetate.

Next meeting will be the third Tuesday of the month, November 18, 2010.

With no further business meeting was closed at 9:00 pm.

Respectfully submitted,

Ginny Raub
Secretary

Pedestrian Trail DRAFT

- File a Notification with NHDES
- Opening in vegetation: 4 feet wide/8 feet tall
- Tread smoothed of roots and rocks at least 2 feet wide
- Slope of tread generally less than 5 % along the thread with 1-2 % across it
- Crossings of streams and wetlands see NHDES standards*

*BMP for Erosion Control

TRAILBED AND SLOPE FINISH

NOT TO SCALE

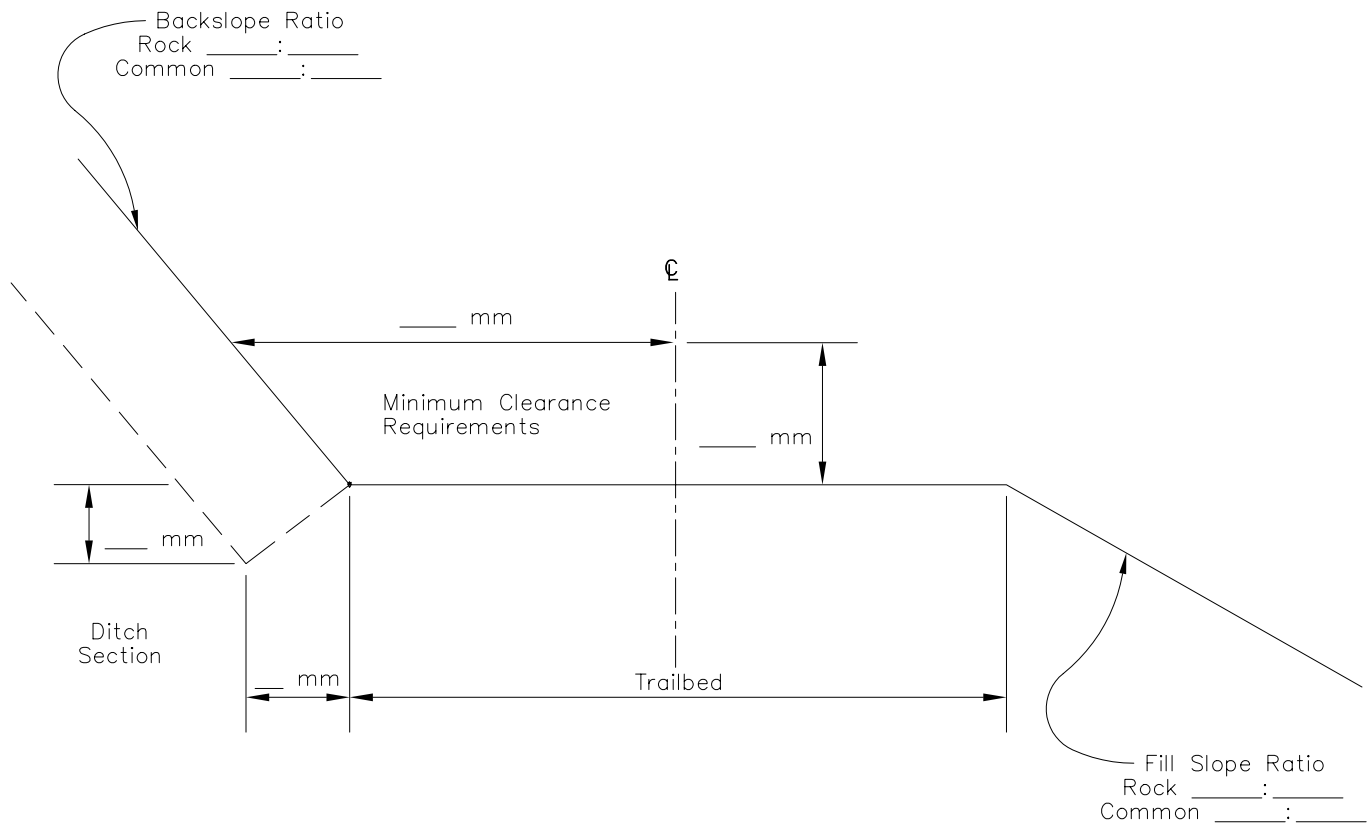
Slope Finish

Remove roots over ____ mm in diameter that protrude from the backslope.

Trailbed Finish

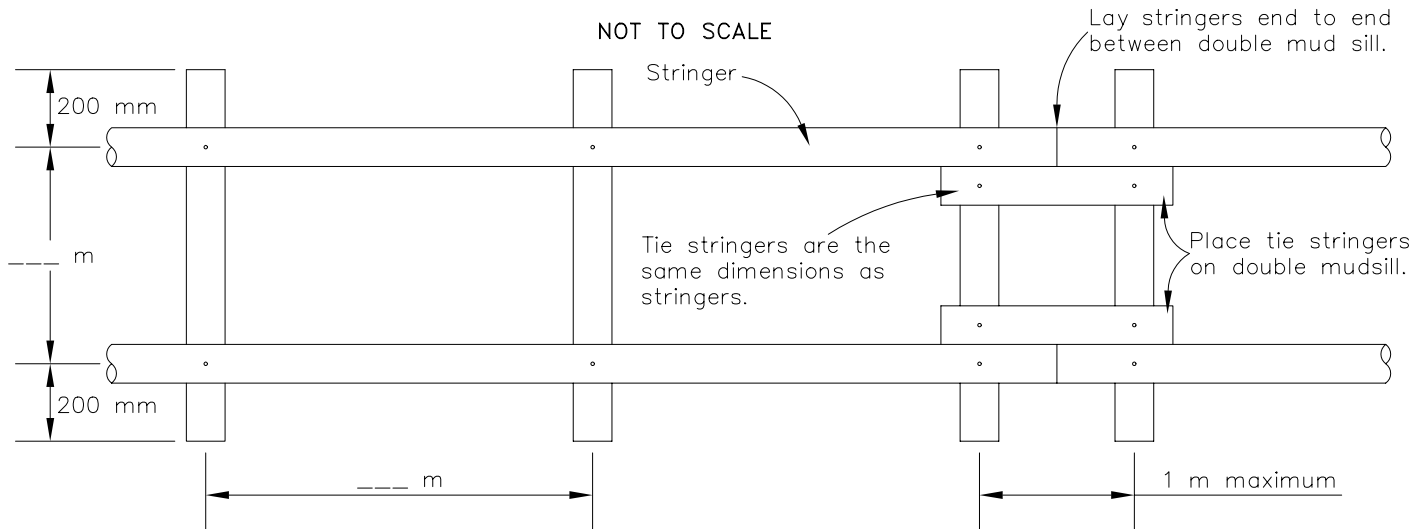
Remove loose rock on the trailbed surface over ____ mm in the smallest dimension.

Remove or reduce embedded rock that protrudes more than ____ mm above the trailbed.

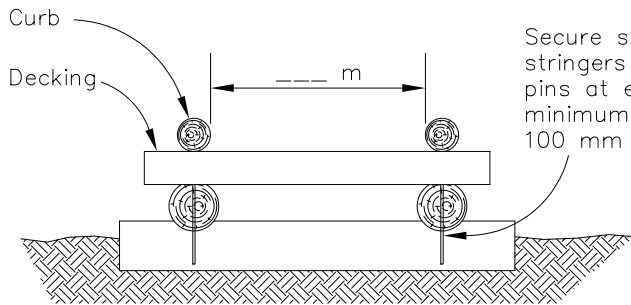


PUNCHEON WITH DECKING

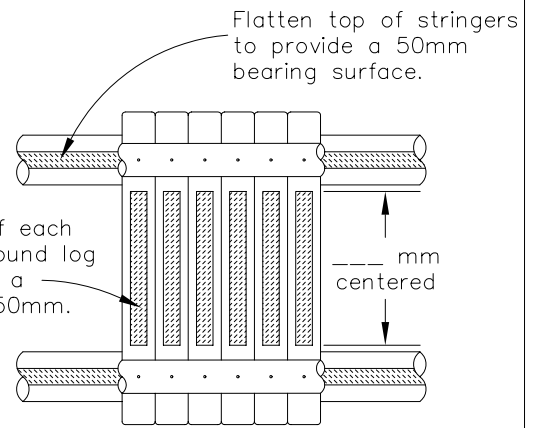
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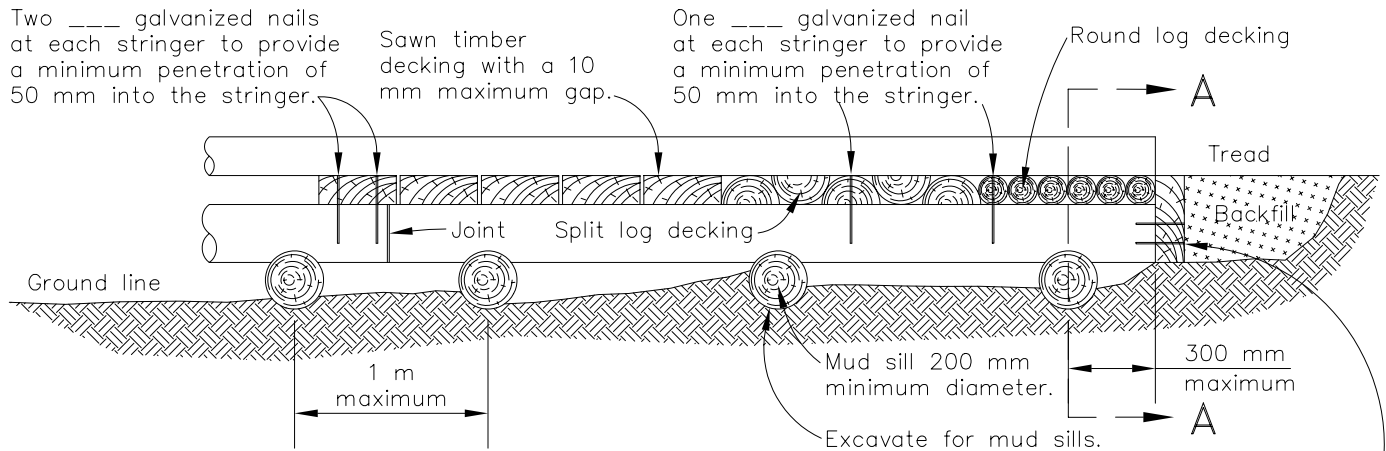
MUD SILL AND STRINGER LAYOUT



SECTION A-A



PLAN VIEW



SECTION VIEW

Bulkhead:
Secure with a minimum of two galvanized spikes with a minimum penetration of 50 mm into the stringer.

MEMBER	TYPE	SPECIES	SIZE (mm)	TREATMENT TYPE	MINIMUM RETENTION (kg/m ³)
Stringer					
Deck					
Curb					
Bulkhead					