

APPENDIX 6

Water Quality

Appendix 6

Water Quality

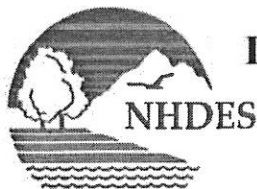
On July 28, 1983, as part of the FERC licensing process, the New Hampshire Water Resources Board completed their review of the project and issued their finding that water quality impacts from the construction and operation of the facility would be minimal and therefore they posted no objections to the project.

There have been no deficiencies noted by any state or federal agency in regards to the project's impact on the water quality of the Contoocook River since the project began operation in 1983.

Since the WQC was issued prior to 1986, Briar Hydro Associates is currently working with Mr. Ted Walsh, Surface Water Monitoring Coordinator for the New Hampshire Department of Environmental Services (NHDES), to develop and implement a testing program to confirm that the Penacook Lower Falls project is not causing or contributing to violations of state water quality standards (Appendix 6-1). Testing was completed in 2010 and testing on current conditions began in August 2015 and was completed by September 30, 2015. Testing will be forwarded to the Low Impact Hydropower Institute upon receipt.

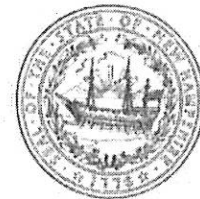
APPENDIX 6-1

**NHDES Letter dated October 5, 2015 Re: Water Quality Monitoring Recommendations for
LIHI Recertification of Penacook Lower Falls**



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner



October 5, 2015

Andrew Locke
Essex Hydro Associates, LLC
55 Union Street, 4th Floor
Boston, MA 02108

RE: Water Quality Monitoring Recommendations for Low Impact Hydropower Institute Recertification of Penacook Lower Falls Hydroelectric Project (FERC No. 3342), Contoocook River

Dear Andrew:

We understand that Essex Hydro Associates is applying for Low Impact Hydropower Recertification from the Low Impact Hydropower Institute (LIHI) for Penacook Lower Falls Hydroelectric Project (FERC No. 3342), on the Contoocook River in Penacook, NH. We further understand that to receive LIHI recertification, you need a statement from the New Hampshire Department of Environmental Services (DES) stating that the upstream and downstream reaches of the Contoocook River are in compliance with New Hampshire water quality standards pursuant to the federal Clean Water Act. Table 1 provides the current assessment status of the parameters of concern included in the monitoring plan outlined in a later section of this letter. The information provided in Table 1 is derived from DES's draft 2014 305(b)/303(d) report and much of the data was collected during the 2010 LIHI certification process.

Table 1. 2014 Water Quality Assessment for the Contoocook River at the Penacook Lower Falls Hydroelectric Project

Assessment Unit	Location	Parameter	Designated Use	Assessment Status based upon summer 2010 sampling
NHIMP700030507-07	Penacook Lower Falls Dam Impoundment	Dissolved Oxygen (mg/L)	Aquatic Life	Fully Supporting
		Dissolved Oxygen (% Saturation)	Aquatic Life	Fully Supporting
		Chlorophyll-a	Primary Contact Recreation	Fully Supporting
			Aquatic Life	Indeterminate ^A
		Total Phosphorus	Aquatic Life	Indeterminate ^A
		Water Temperature	Aquatic Life	No numeric criteria ^C
NHRIV700030507-10	Downstream of Penacook Lower Falls Dam	Dissolved Oxygen (mg/L)	Aquatic Life	Fully Supporting
		Dissolved Oxygen (% Saturation)	Aquatic Life	Fully Supporting
		Chlorophyll-a	Primary Contact Recreation	Fully Supporting
		Total Phosphorus	Aquatic Life	No numeric criteria ^B
		Water Temperature	Aquatic Life	No numeric criteria ^C

DES Web Site: www.des.nh.gov

P.O. Box 95, 29 Hazen Drive, Concord, New Hampshire 03302-0095

Telephone: (603) 271-3503 Fax: (603) 271-2867 TDD Access: Relay NH 1-800-735-2964

^A DES does have numeric water quality criteria for the aquatic life designated use for total phosphorus and chlorophyll-a in lakes/ponds and impoundments with characteristics similar to lakes/ponds but it can only be applied to waterbodies where the trophic class is known. For waterbodies where the trophic class is known the median total phosphorus and chlorophyll-a value is used to make the criteria comparison. The aquatic life designated use nutrient and chlorophyll-a criteria are depicted below with the median values for each parameter for the data collected at station 02-CTC in assessment unit NHIMP700030507-07 during the summer of 2010.

	TP (ug/L)	Chl-a (ug/L)
Median 02-CTC (2010)	17	1.87
Oligotrophic	< 8	< 3.3
Mesotrophic	≤ 12	≤ 5
Eutrophic	≤ 28	≤ 11

^B DES does not have numeric water quality criteria for nutrients in rivers or streams. The narrative criteria states that "Class B waters shall contain no phosphorus or nitrogen in such concentrations that would impair any existing or designated uses, unless naturally occurring."

^C Although there is currently no numerical water quality criteria for water temperature, NHDES is in the process of collecting biological and water temperature data that will contribute to the development of a procedure for assessing rivers and stream based on water temperature and its corresponding impact to the biological integrity of the waterbody.

In order for DES to determine if the subject hydroelectric project is causing or contributing to water quality standard violations, new monitoring and information is needed. The maximum age of river data DES can use in water quality assessments is five years. This aligns with LIHI's requirement that certifications be renewed every five years.

Environmental data and project information is needed to address the following water quality concerns that are typically associated with hydropower projects:

1. Impact on ambient water quality criteria;
2. Impact of pond fluctuations on aquatic habitat;
3. Maintenance of adequate minimum flows to protect downstream aquatic life; and
4. Adequate upstream and downstream fish passage.

Specifics are provided below:

1. Water Quality

Water quality parameters most susceptible to impact from hydroelectric projects typically include dissolved oxygen (DO), water temperature, chlorophyll-a and total phosphorus. Samples are typically collected upstream and downstream of the dam. Based on our current understanding of the project, the following is recommended.

Table 2 provides the water quality sampling locations used during the original 2010 LIHI certification. DES recommends that the same sampling locations be used for recertification sampling. Recommended parameters and frequency of monitoring are provided in Table 3 below.

Table 2. Sampling Locations for Water Quality Monitoring at Penacook Lower Falls Dam

Assessment Unit	Location	NHDES Station ID	Size/Acreage
NHIMP700030507-07	Penacook Lower Falls Dam Impoundment	02-CTC	8.5 acres
NHRIV700030507-10	Downstream of Penacook Lower Falls Dam	01G-CTC	0.65 miles

Table 3. Recommended Water Quality Monitoring Plan for Penacock Lower Falls Dam

Site ID	Location	Purpose	Parameters	Frequency
02-CTC	East Street Bridge, Boscawen	Determine water quality impacts of river being impounded by Penacock Lower Falls Dam	Continuous Dissolved Oxygen (mg/L and % Saturation) and Continuous Water Temperature (collected with dataloggers)	At least 10 days of data collected at 15 minute increments during period of low flow ($\leq 3 \times 7Q_{10}$) and high temperatures (preferably over 23 degrees C). Dataloggers should be set at the bottom of the epilimnion (if stratified) or at 25% depth if not stratified.
			Instantaneous Dissolved Oxygen (mg/L and % Saturation) and Water Temperature	2 vertical profiles collected on 2 days when continuous dataloggers are deployed. Profiles should be at 1 foot increments from surface to bottom
			Total Phosphorus and Chlorophyll-a	10 samples - once a week for 10 weeks (from August through October)
01G-CTC	~ 250 feet downstream of dam, Boscawen	Determine water quality condition downstream of Penacock Lower Falls Dam	Continuous Dissolved Oxygen (mg/L and % Saturation) and Continuous Water Temperature (collected with dataloggers)	At least 10 days of data collected at 15 minute increments during period of low flow ($\leq 3 \times 7Q_{10}$) and high temperatures (preferably over 23 degrees C).
			Total Phosphorus and Chlorophyll-a	10 samples - once a week for 10 weeks (from August through October)

Prior to sampling, a sampling plan should be submitted to DES for approval which includes sampling locations, parameters to be sampled, sample timing and frequency, sampling and laboratory analysis protocols and quality control provisions. DES can provide examples of sampling plans upon request.

For each sampling station and the following should be provided:

- Site map with longitudinal and latitudinal coordinates
- Site description including weather, vegetation, flow conditions, and any other site conditions that would potentially impact water quality
- Photographs of each monitoring location.

With regards to quality assurance/quality control, the following is recommended:

- During one sampling event replicate samples should be collected for laboratory analysis.
- Multiparameter dataloggers and handheld meters should be calibrated for dissolved oxygen before each sampling event on-site according to the manufacturer's instructions.
- Field sampling quality control should consist of 1) replicate analysis, 2) maintenance records, 3) field calibration and record of calibration, and 4) record of equipment used.
- Instrument and equipment maintenance should include: 1) checking field test kits to be sure all reagents are not contaminated and are not beyond expiration dates, 2) replacing reagents in accordance with manufacturer's recommendations, 3) calibrating equipment before each sampling event, and 4) recording of maintenance and calibration activities.
- Chain of custody forms and information regarding laboratory standard methods should be submitted to DES with the data.

The sampling plan should also specify that water quality data will be collected under critical low flow/high water temperature conditions. The United States Geologic Services maintains a stream gage on the Contoocook River just downstream of the Hopkinton Dam in West Hopkinton (USGS 01085500). Data from this gage can be used to estimate when the Contoocook River is flowing below 3 x 7Q10 low flow conditions. The 3 X 7Q10 value for USGS stream gage 1085500 is 108 cfs. During the sampling period the Penacook Lower Falls Hydroelectric dam should be operating under normal operating procedures.

Finally, the plan should specify that all data should be submitted to DES electronically and in a form that can be automatically uploaded into the DES Environmental Monitoring Database (EMD). Information on uploading data to the EMD can be found at <http://des.nh.gov/organization/divisions/water/wmb/emd/index.htm> or by contacting Melanie Titus at (603) 271-1152 or Melanie.Titus@des.nh.gov.

2. Pond Fluctuation

Pond fluctuations due to operation of hydroelectric projects can negatively impact aquatic habitat and aquatic life. To determine the impact of pond fluctuations on aquatic life, the following information was required to be submitted to DES during the 2010 certification process

- a. A description and schematic of the project including the dam height, length, control structures and elevations, crest elevation, flashboard elevations, and impoundment depth, elevation, area and volume at full pool, normal and maximum drawdown elevations;
- b. Timing, frequency, duration and magnitude of drawdowns
- c. Historical water level fluctuations over the past 5 years
- d. Map of fringing wetlands preferably delineated from high-resolution aerial photography
- e. An estimate of the average and maximum percent of the littoral zone (preferably based on accurate bathymetry) that is dewatered as well as average and maximum duration of dewatering for each quarter of the calendar year

DES requests a statement from EHA which identifies any changes to the information provided during the 2010 certification process for the items listed above.

3. Minimum Flows

To determine if adequate flow to support aquatic life is provided downstream of the facility, the following is typically needed:

- a. Minimum flow requirements through the penstock and bypass reach;
- b. Length of bypass reach (include pictures);
- c. Information on how the minimum flows were determined;
- d. Information on how compliance with minimum flow requirements is determined; and
- e. Documentation proving compliance with minimum flow requirements for the past five years.

On November 2010 EHA provided DES with information regarding minimum flows and pond fluctuations at the Penacook Lower Falls Hydroelectric Project. EHA confirmed that the facility is operated as a fully automated run of river project. The project is licensed to release an outflow equal to an instantaneous minimum of 338 cfs. Due to the operation of the facility as a run of river project, EHA also provided information indicating that any "water level fluctuations have been controlled by natural changes in the river flow and minimum flow requirements have been equal to the lesser of 338 cfs or project inflow." DES requests from EHA a statement that the above minimum flow operations are the same in 2015 as they were during the 2010 certification. If any of the minimum flow items listed above have changed please provide a summary to DES of the changes. If minimum flow management has not changed since 2010 DES requests documentation that the minimum flow requirement continues to be equal to the lesser of 338 cfs or project inflow.

October 5, 2015

Page 5 of 5

4. Fish Passage

In 2010 DES was provided with documentation from EHA that they have received confirmation of compliance from John Warner of the U.S. Fish and Wildlife Service (USFWS) and Carol Henderson of New Hampshire Fish and Game (NHFG) for downstream fish passage. Regarding upstream fish passage, DES also received documentation from EHA that barring changes to river conditions or fish management plans, the schedule for design and installation of upstream fish passage infrastructure will be governed by the construction and successful function of upstream fish passage facilities located on the Merrimack River downstream of the confluence with the Contoocook River and at the downstream Penacook Lower Falls facility on the Contoocook River. NHFG and the USFWS have indicated their concurrence with the current status of upstream fish passage. NHFG and the USFWS were scheduled to again consult with EHA on the upstream fish passage issue no earlier than June 1, 2012.

To address fish passage concerns, DES will need notification from the NHFG and the USFWS stating that they are satisfied with upstream and downstream fish passage provisions associated with the subject project.

Copies of correspondence with NHFG and USFWS should be provided to DES. Contact information is provided below.

Carol Henderson
NH Fish and Game Department
11 Hazen Drive, Concord, NH 03301
603-271-3511
carol.henderson@wildlife.nh.gov

John P. Warner, Energy/Hydropower Coordinator
New England Field Office, U.S. Fish and Wildlife Service
70 Commercial Street, Suite 300
Concord, NH 03301
(603) 223-2541 - ext.15
John_Warner@fws.gov

Once all of the data has been submitted, NHDES will make a determination regarding compliance of the project with NH water quality standards.

Should you have any questions regarding these recommendations or wish to arrange a meeting, please contact me at (603) 271-2083 (ted.walsh@des.nh.gov).

Sincerely,



Ted Walsh, Surface Water Monitoring Coordinator
NH DES Watershed Management Bureau

cc: Melanie Titus, NHDES
Dr. Michael J. Sale, Executive Direction, Low Impact Hydropower Institute
Carol Henderson, New Hampshire Fish and Game
John Magee, New Hampshire Fish and Game
John Warner, USFWS

APPENDIX 7
Fish Passage and Protection

Appendix 7

Fish Passage and Protection

Article 32 of the Project's FERC license ("the license") dated November 17, 1982 (see Appendix 2-2), provided for the construction of fish passage facilities at the Penacook Lower Falls Project (the Project) within three years after the completion of fish passage facilities at the downstream Sewalls Falls Dam (FERC No. 3040). An April 1984 freshet washed away one-third of the Sewalls Falls Dam, the structure was never rebuilt and, as previously mentioned, efforts to develop a hydroelectric plant at that dam were abandoned. As a consequence, it was necessary to delete reference to the Sewalls Falls hydroelectric project in connection with the construction of fish passage facilities in the Merrimack River basin. Heretofore, the Sewalls Falls project was expected to be the next most downstream dam from the PLF project. After the Sewalls Falls project was abandoned, the Garvin's Falls project became the next most downstream dam from the PLF project.

On October 16, 1986 the Federal Energy Regulatory Commission issued an Order Amending article 32 updating the Project's FERC license to reflect an agreement between Public Service of New Hampshire (PSNH) and the state and federal fishery agencies regarding the construction of fish passage facilities at the mainstream dams on the Merrimack River (see Appendix 7-1). The license, as amended, requires the PLF Project to file functional design drawings with the Commission within two years after the passage of 15,000 adult American shad at the Garvins Falls Project (FERC No. 1893), which, as of the date of this application has not yet occurred. The License requires the functional design drawings to be prepared in consultation with the New Hampshire Fish and Game Department and the U.S. Fish and Wildlife Service.

Since the PLF project began operation, the Merrimack fish restoration program has not achieved its original goals. Consequently, agreement was reached among various state and federal agencies and affected hydroelectric projects on the Merrimack and Contoocook rivers to delay the originally contemplated installation dates of upstream fish facilities at projects above the Amoskeag dam in Manchester, N.H. until a minimum of 15,000 American Shad were observed at that dam. As mentioned previously, there is one intervening hydroelectric plant between the Amoskeag facility and the PLF Project, the PSNH Garvin Falls project. The Garvins Falls project is

required to install upstream fish passage facilities within 3 to 5 years after the passage of 15,000 American shad at the Amoskeag dam; the PLF project is required to install its fish passage facilities within 3 years after 15,000 American shad are present at the Garvin Falls project. Recent email correspondence dated March 18, 2010 with John Warner, Energy/Hydropower Coordinator in the New England Field Office of the U.S. Fish and Wildlife Service and Carol Henderson at New Hampshire Fish and Game confirms that both agencies are in agreement with the aforementioned timeframe for installing upstream fish passage at the project. (see Appendix 7-2)

A letter dated March 5, 2009 between Mr. Robert Gundersen, Hydro Manager, PSNH and Mr. John K. Novak, FERC Division of Hydropower Administration and Compliance states that during 2008, no American shad or river herring were observed at the Amoskeag development (see Appendix 7-3). Consequently, since the Garvins Falls project will not be required to install fish facilities until 2012 at the earliest (2009 plus 3 years), the earliest that the PLF project will be required to install its facilities is 2015, three years from 2012). Therefore, the Project is in compliance with the upstream fish passage requirements of its license.

With respect to downstream fish passage the Project maintains a 40cfs downstream flow through a pipe located in the gated concrete spillway of the project. In accordance with USFW service requirements, the bypass flow is maintained from May 1 through June 30 of each year. Recent correspondence between the Project, USFW dated August 6, 2009 confirms that the Project is in compliance with regulatory requirements (see Appendix 7-4).

As a condition of the PLF FERC license, the Project has agreed that should it be established in the future that the operation of the project adversely affects fish and wildlife resources the Project may be ordered to undertake appropriate mitigation pursuant to authority reserved to the Commission under Articles 24 and 25 of the License.

APPENDIX 7-1
Order Amending License Article
Dated October 10, 1986

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Wolf
5300

RECEIVED OCT 20 1986

37 FERC ¶ 62,828
DAVID B. WARD, P.C.
10/16/86

OCT 16 1986

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Lower Penacook Project

Project No. 3342-004

ORDER AMENDING LICENSE ARTICLE

(Issued October 10, 1986)

On August 5, 1986, New Hampshire Associates (licensee) filed an application for amendment of the license for the Lower Penacook Project, to amend article 32 to reflect an agreement between Public Service of New Hampshire (PSNH) and the state and federal fishery agencies regarding the construction of fish passage facilities at mainstem dams on the Merrimack River. 1/ The Lower Penacook Project is located on the lower Contoocook River, which is a tributary stream proposed for anadromous fish restoration and that enters the Merrimack River upstream of the fifth mainstem dam.

The revision of article 32 will provide for construction of fish passage facilities at the Lower Penacook Project on a schedule consistent with the agreement on mainstem fish passage, and based on the success of the anadromous fish restoration program on the Merrimack River.

The Director orders:

(A) Article 32 of the license is amended to read:

Article 32. The licensee, within 2 years after the annual passage of 15,000 adult American shad through the fish passage facilities at the Garvins Falls Project (FERC No. 1893), or through the fish

1/ The agreement is entitled, A Comprehensive Plan for Provision of Anadromous Fish Passage Measures and Facilities at PSNH's Merrimack-Pemigewasset River Hydroelectric Dams, FERC Project Nos. 1893, 2456, and 2457, and was signed by PSNH, the New Hampshire Fish and Game Department, the Massachusetts Division of Fisheries and Wildlife, the Massachusetts Division of Marine Fisheries, the National Marine Fisheries Service, the U.S. Forest Service, and the U.S. Fish and Wildlife Service.

facilities of the proposed Sewalls Falls Project (FERC No. 7216) if constructed, but in no case later than July 1, 2004, shall file for Commission approval functional design drawings of fish passage facilities for the Lower Penacook Project, prepared after consultation with the New Hampshire Fish and Game Department and the U.S. Fish and Wildlife Service. The licensee shall provide upstream and downstream fish passage facilities at the Lower Penacook Project within 5 years after the annual passage of 15,000 adult American shad through the fish facilities at the Garvins Falls Dam, or Sewalls Falls Dam if constructed, consistent with the agreement entitled, A Comprehensive Plan for Provision of Anadromous Fish Passage Measures and Facilities at PSNH's Merrimack-Pemigewasset River Hydroelectric Dams, FERC Project Nos. 1893, 2456, and 2457. Further, the licensee shall file as-built drawings of the Lower Penacook Project fish passage facilities within 6 months after completion of construction.

(B) This order is issued under authority delegated to the Director and is final unless appealed to the Commission under Rule 1902 within 30 days from the date of this order.

Richard T. Hunt
Richard T. Hunt
Director, Office of
Hydropower Licensing

APPENDIX 7-2

Email from US Fish and Wildlife Service and New Hampshire Fish and Game Department
Re: Fish Passage Facilities

Subject: [Fwd: Re: Status Report on Fish Passage Facilities at Briar Hydro's Contoocook R. Projects]
From: "Thomas A. Tarpey" <tarpey@massgravity.com>
Date: Wed, 17 Mar 2010 15:39:46 -0400
To: "Stephen J. Hickey" <sjh@essexhydro.com>, Richard Norman <ran@essexhydro.com>

--
Thomas Tarpey
Essex Hydro Associates, LLC
55 Union Street, 4th Floor
Boston, MA 02108
V: 617-367-0032
F: 617-367-3796
H: 978-369-1543
M: 617-710-1114
e-mail: tarpey@massgravity.com

Subject: Re: Status Report on Fish Passage Facilities at Briar Hydro's Contoocook R. Projects
From: John_Warner@fws.gov
Date: Wed, 17 Mar 2010 15:00:54 -0400
To: tarpey@massgravity.com
CC: "Carol B Henderson (NHF&G)" <Carol.Henderson@wildlife.nh.gov>

Tom -- Your letter is fine as written - JW

John P. Warner, Energy/Hydropower Coordinator
New England Field Office, U.S. Fish and Wildlife Service
70 Commercial Street, Suite 300
Concord, NH 03301
(603) 223-2541 - ext.15
(603) 223-0104 - FAX

www.fws.gov.northeast/newenglandfieldoffice
"Thomas A. Tarpey" <tarpey@massgravity.com>

"Thomas A. Tarpey"
<tarpey@massgravity.com>

03/17/2010 11:38 AM

Please respond to
tarpey@massgravity.com

To "Warner, John" <john_warner@fws.gov>, "Carol B Henderson (NHF&G)"
<Carol.Henderson@wildlife.nh.gov>

cc

Subject Status Report on Fish Passage Facilities at Briar Hydro's Contoocook R. Projects

John & Carol:

Attached is a pdf of a draft of the fish passage status report I am planning to send to the FERC.

I just (with embarrassment) incorporated the changes John suggested, back in September of '09.

Please let me know, by e-mail or phone, if you are in concurrence with the substance of this report.

Regards,
Tom

--
Thomas Tarpey
Essex Hydro Associates, LLC
55 Union Street, 4th Floor
Boston, MA 02108
V: 617-367-0032
F: 617-367-3796
H: 978-369-1543

[Fwd: Re: Status Report on Fish Passage Facilities at Briar Hydro's C...

M: 617-710-1114
e-mail: tarpey@massgravity.com

(See attached file: 20100317 - Draft Compliance Report on Upstream and Downstream Fish Passage.pdf)

Re: Status Report on Fish Passage Facilities at Briar Hydro's Contoocook R. Projects.eml

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20100317 - Draft Compliance Report on Upstream and Downstream Fish Passage.pdf

Content-Type: application/pdf
Content-Encoding: base64

Subject: [Fwd: Re: Status Report on Fish Passage Facilities at Briar Hydro's Contoocook R. Projects]
From: "Thomas A. Tarpey" <tarpey@massgravity.com>
Date: Thu, 18 Mar 2010 11:03:50 -0400
To: "Stephen J. Hickey" <sjh@essexhydro.com>, Richard Norman <ran@essexhydro.com>

--
Thomas Tarpey
Essex Hydro Associates, LLC
55 Union Street, 4th Floor
Boston, MA 02108
V: 617-367-0032
F: 617-367-3796
H: 978-369-1543
M: 617-710-1114
e-mail: tarpey@massgravity.com

Subject: RE: Status Report on Fish Passage Facilities at Briar Hydro's Contoocook R. Projects
From: "Henderson, Carol" <Carol.Henderson@wildlife.nh.gov>
Date: Thu, 18 Mar 2010 11:01:56 -0400
To: <tarpey@massgravity.com>

Dear Tom:

NHF&G is in concurrence with the contents of the enclosed letter/report.
Thank you, Carol

Carol Henderson
NH Fish and Game Department
11 Hazen Drive, Concord, NH 03301
603-271-3511
carol.henderson@wildlife.nh.gov

-----Original Message-----

From: Thomas A. Tarpey [<mailto:tarpey@massgravity.com>]
Sent: Wednesday, March 17, 2010 11:38 AM
To: Warner, John; Henderson, Carol
Subject: Status Report on Fish Passage Facilities at Briar Hydro's Contoocook R. Projects

John & Carol:

Attached is a pdf of a draft of the fish passage status report I am planning to send to the FERC.

I just (with embarrassment) incorporated the changes John suggested, back in September of '09.

Please let me know, by e-mail or phone, if you are in concurrence with the substance of this report.

Regards,
Tom

--
Thomas Tarpey
Essex Hydro Associates, LLC
55 Union Street, 4th Floor
Boston, MA 02108
V: 617-367-0032
F: 617-367-3796
H: 978-369-1543
M: 617-710-1114
e-mail: tarpey@massgravity.com

Re: Status Report on Fish Passage Facilities at Briar Hydro's Contoocook R. Projects.eml

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Content-Encoding: 7bit

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BRIAR HYDRO ASSOCIATES

c/o ESSEX HYDRO ASSOCIATES, LLC
55 UNION STREET, 4TH FLOOR
BOSTON, MASSACHUSETTS 02108 USA

TELEPHONE:
FAX:
E-MAIL:

+617-367-0032
+617-367-3796
briar@essexhydro.com

March 17, 2010

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: FERC Projects Nos. 3240, 3342, and 6689: Status Report on Compliance Regarding
Upstream and Downstream Fish Passage Requirements.

Dear Secretary Bose:

Briar Hydro Associates ("BHA") is the licensee for the above listed hydroelectric projects. BHA has had ongoing, periodic consultation with the US Fish and Wildlife Service ("USFWS") and the NH Department of Fish and Game ("NHF&G"), concerning the schedule for design and construction of upstream and downstream fish passage facilities at those projects.

At this time, those projects are in compliance, as regards downstream migration facilities, with all the installed facilities functioning satisfactorily.

Regarding upstream passage facilities, barring changes to river conditions or fish management plans, the schedule for design and installation of passage will be governed by the construction and function of passage facilities located on the Merrimack River, downstream of its confluence with the Contoocook River, where the BHA projects are sited.

In recent discussion with USFWS and NHF&G, it was agreed that, barring changes to river conditions or fish management plans, BHA's next scheduled consultation on these matters should take place no earlier than June 1, 2012.

BRIAR HYDRO ASSOCIATES

By: Essex Hydro Associates, L.L.C.

A General Partner

Thomas A. Tarpey
Executive Vice President

cc: J. Warner; USFWS
C. Henderson; NHF&G

John Warner
Energy/Hydropower Coordinator
New England Field Office
U.S. Fish and Wildlife Service
70 Commercial Street, Suite 300
Concord, NH 03301

Carol Henderson
NH Fish and Game Department
11 Hazen Drive, Concord, NH 03301

APPENDIX 7-3
FERC Letter Dated March 5, 2009 – 2008 Fish Passage Facility Status Report

FEDERAL ENERGY REGULATORY COMMISSION
Washington, D. C. 20426

OFFICE OF ENERGY PROJECTS

Project No. 1893-064--New Hampshire
Amoskeag, Hooksett and Garvins Falls
Public Service of New Hampshire

Mr. Robert Gundersen
Hydro Manager
Public Service of New Hampshire
P.O. Box 330
Manchester, NH 03105-0330

March 5, 2009

Subject: 2008 Fish Passage Facility Status Report

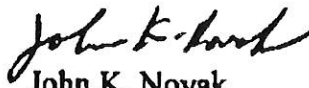
Dear Mr. Gundersen:

This is in response to your letter filed December 1, 2008, providing a report on upstream fish passage activities at the three project developments during 2008. This report was filed pursuant to the Water Quality Certification (WQC) and license Article 401.

Pursuant to the WQC and the fishway prescription issued by the U.S. Department of the Interior you are required to install upstream fish passage facilities within 3 to 5 years at the Hooksett and Garvins Falls developments after passage of a certain number American shad or river herring at the Amoskeag and Hooksett developments. There is an existing upstream fish passage facility at the Amoskeag development. You report that during 2008 that no American shad or river herring were observed at the Amoskeag development.

You report satisfies the filing requirements of the project license. Thank you for your cooperation in this matter. If you have any questions pertaining to this letter, please contact me at (202) 502-6076.

Sincerely,



John K. Novak
Biological Resources Branch
Division of Hydropower Administration
and Compliance

APPENDIX 7-4
FERC License Compliance Confirmation from USFW dated 8/6/09

"Thomas A. Tarpey" <tarpey@massgravity.com>

08/06/2009 12:50 PM
Please respond to
tarpey@massgravity.com

To

"Warner, John" <john.warner@fws.gov>

cc

"Norman, Richard" <ran@essexhydro.com>, "Sherman, Dave" <davesherman1@aol.com>, "Heinz, William B." <bill@billheinz.com>

Subject

Essex Hydro - Contoocook R Fish Passage Requirements

John:

It was enjoyable to speak with you, this morning.

After reviewing our exchanges of correspondence from February 2005 through May 2006, it is clear that the Penacook projects were (and are) in compliance.

My correspondence of that period, which dealt only with downstream migration facilities, would have been more clear had I referenced the conditions precedent to the commencement of consultation and design regarding upstream facilities; i.e. upstream passage of five thousand shad at Garvins Falls. Those license conditions are clear.

Therefore, I will not be making a further filing with FERC on this issue. But, for the tickler files of Dave Sherman and Bill Heinz, I would be grateful to have you concur with the conclusion you and I reached this morning: we will not have to budget for consultation and design on upstream facilities at our Contoocook River projects till June 2012, at the earliest.

Also, I would appreciate it if you would send me contact information for Bill Ingham's replacement at NHF&G.

Regards,
Tom

--

Thomas Tarpey
Essex Hydro Associates, LLC
55 Union Street, 4th Floor
Boston, MA 02108
V: 617-367-0032
F: 617-367-3796
H: 978-369-1543
M: 617-710-1114
e-mail: tarpey@massgravity.com

John Warner@fws.gov wrote:

Tom -- OK -- I think its safe to say that your conclusion is correct -- jw

John P. Warner, Energy/Hydropower Coordinator
New England Field Office, U.S. Fish and Wildlife Service
70 Commercial Street, Suite 300
Concord, NH 03301
(603) 223-2541 - ext.15
(603) 223-0104 - FAX

www.fws.gov.northeast/newenglandfieldoffice
Inactive hide details for "Thomas A. Tarpey" <tarpey@massgravity.com>"Thomas A. Tarpey" <tarpey@massgravity.com>

APPENDIX 8
Description of Watershed Protection

Appendix 8

Description of Watershed Protection

The watershed of the Contoocook River upon which the Penacook Lower Falls Project is located is primarily forested. As was previously described, the Contoocook River contains numerous other small tributaries and many natural lakes. Elevations in the watershed range from 3165 ft MSL at the top of Mt. Monadnock to 243 ft. MSL at the confluence with the Merrimack. The Contoocook drops about 130 feet in its final 20 miles (6.5 ft/mile), thus explaining the location of the village of Penacook and the development of numerous water-powered mills over the past two centuries.

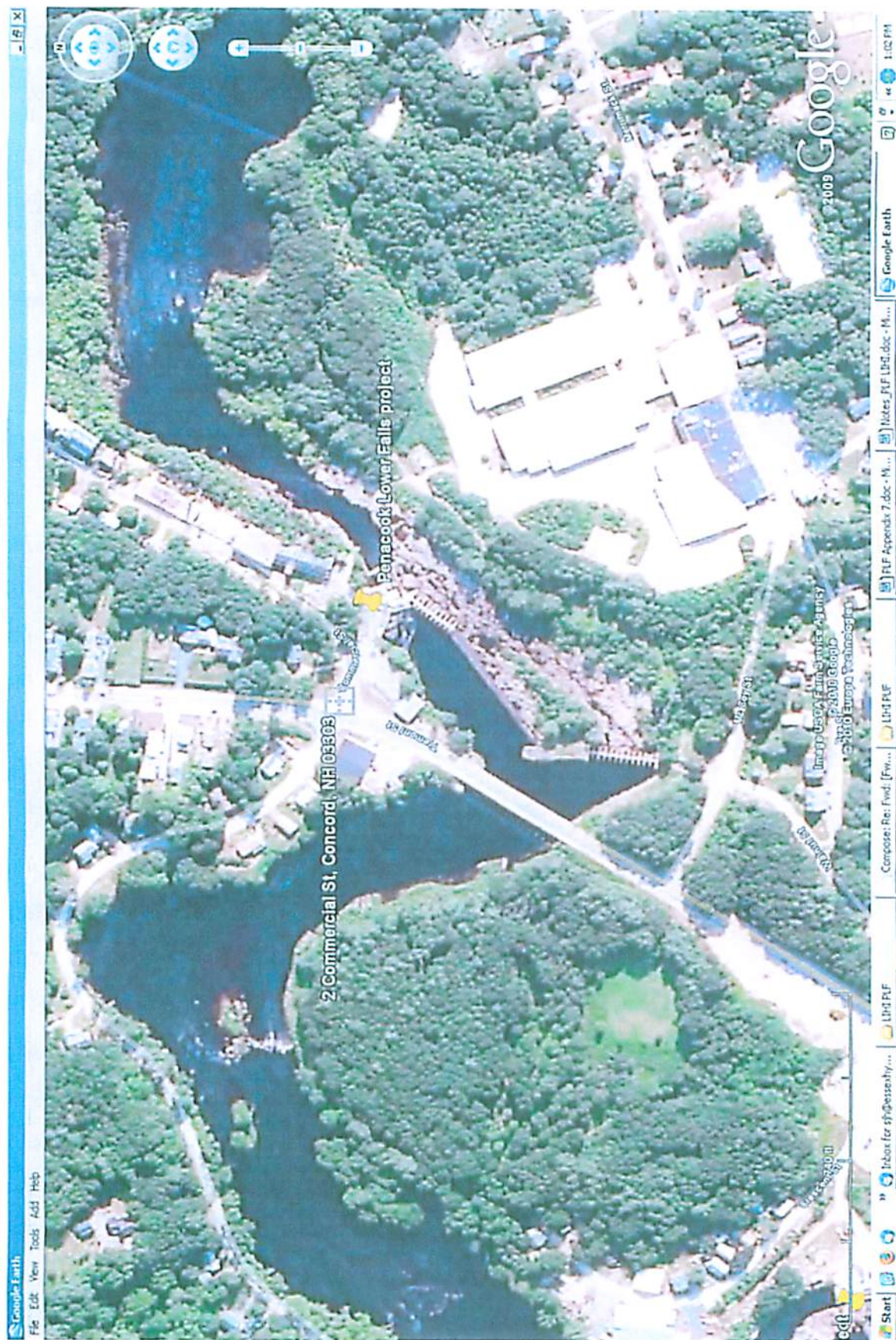
The Penacook Lower Falls Hydroelectric Project is located partially in the Village of Penacook, New Hampshire and partially in the City of Concord, New Hampshire. Industrial, residential and undeveloped lands are all found in the project area. Some of the undeveloped land, close as it is to intensive industrial and commercial use, provides some wildlife habitat. Undeveloped lands include a number of wooded areas some of which are seasonally flooded. The remainder of the area consists of low-density residential development. (see Appendix 8-1). The project is located in the Merrimack River Basin approximately 1000 feet above the confluence of the Contoocook and the Merrimack Rivers. The generally south flowing Merrimack River is New England's fifth largest river. The basin is 134 miles in length and 68 miles wide. Total drainage area is 5015 square miles. The two principal headwater streams are the Pemigwasset River (accounting for 20% of the entire drainage) and the Winnepesaukee River. These streams join in Franklin, New Hampshire to form the Merrimack. The tributary with the second largest sub-basin is the Contoocook.

Given the very small impoundment area of the Project there is little need nor opportunity for watershed protection in the area of the project. A public road closely bounds the northern riverbank upstream of the project. The small amount of land between the impoundment and the road is occupied by both light industrial and residential development. The southern riverbank immediately upstream of the project is comprised principally of woodlands that then transitions into land occupied by industrial and residential property.

An abandoned leather mill occupies the Northern riverbank immediately downstream of the project. The southern riverbank immediately downstream of the project consists of woodlands. The PLF project owns approximately 4 acres of land immediately downstream of the PLF dam upon which is located a transformer. Both BRHA power lines and utility power lines also

cross this land. The southern riverbank adjacent to the confluence of the Contoocook and Merrimack rivers consists of woodlands. It is in this area that the project maintains a boat launch and parking area. Public access is provided for recreational boating and angling. Development of this area is limited by land owned by BrHa and existing utility easements.

APPENDIX 8-1
Project Watershed



APPENDIX 9
Description of Threatened and Endangered Species Protection

Appendix 9

Description of Threatened and Endangered Species Protection

No species in the Contoocook River watershed are currently federally listed as endangered. Five species (four animal and one plant species) are currently listed by the state of New Hampshire as threatened, endangered or species of Special Concern. However, no federal or state listed threatened or endangered species are known to occur within the Penacook Lower project boundary area. (see Appendix 9-1)

As a condition of issuance, the Penacook Lower FERC license requires compliance with any terms and conditions that the Federal or State Fish and Wildlife agencies have determined appropriate to prevent loss of, or damage to, fish and wildlife resources. The New Hampshire Fish and Game Department did not request the FERC to require a cumulative impact study for this facility. The Penacook Lower facility (“the facility” operates within FERC and Federal or State Fish and Wildlife Agency guidelines. The project’s license is subject to termination if the facility is found to be out of compliance. There have been no deficiencies noted by any agency with jurisdiction for the facility.

A request was submitted to the New Hampshire Natural Heritage Bureau for a comprehensive list of all threatened or endangered species in the vicinity of the project and the findings to support our aforementioned conclusion regarding species impacted by the facility. The NHNHB response confirming our understanding is attached as Appendix 9-1.

APPENDIX 9-1
NH Natural Heritage Bureau Memo dated September 18, 2015

Memo



NH NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

To: Sheila Burge, Briar Hydro Associates
55 Union Street
4th Floor
Boston, MA 02108

From: Amy Lamb, NH Natural Heritage Bureau

Date: 9/18/2015 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau

NHB File ID: NHB15-3051

Town: Boscawen, Concord

Location: Tax Maps: Map P1 Block 7 Lot 8

Description: The project is an existing hydroelectric plant. No new construction.

cc: Kim Tuttle

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

Comments:

Plant species

long-leaved pondweed (*Potamogeton nodosus*)*

State¹

Federal

Notes

T

--

Threats to aquatic species include changes in water quality, e.g., due to pollution and stormwater runoff, and significant changes in water level.

Vertebrate species

Bald Eagle (*Haliaeetus leucocephalus*)

State¹

Federal

Notes

T

--

Contact the NH Fish & Game Dept (see below).

Fowler's Toad (*Bufo fowleri*)

SC

--

Contact the NH Fish & Game Dept (see below).

Wood Turtle (*Glyptemys insculpta*)

SC

--

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.

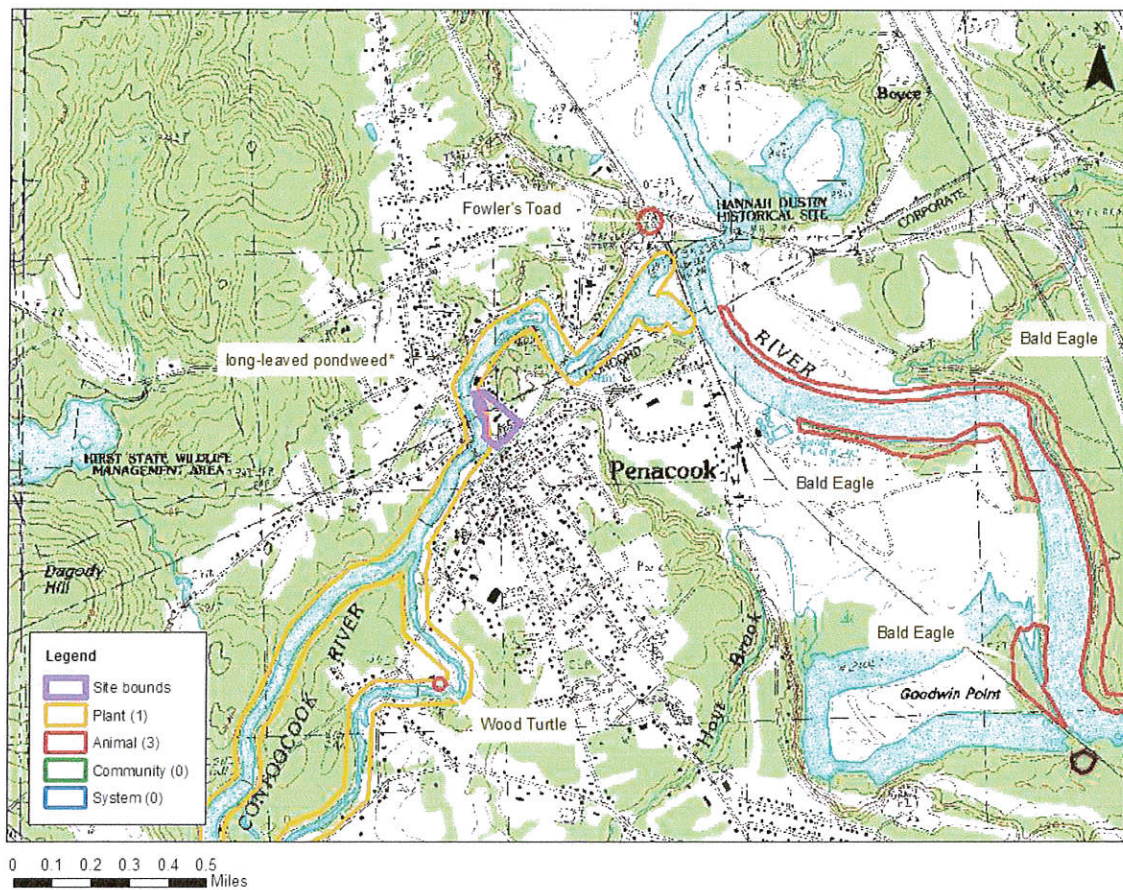
Contact for all animal reviews: Kim Tuttle, NH F&G, (603) 271-6544.

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
172 Pembroke Rd.
Concord, NH 03301

NHB15-3051



New Hampshire Natural Heritage Bureau - Plant Record

long-leaved pondweed (*Potamogeton nodosus*)**Legal Status**

Federal: Not listed
State: Listed Threatened

Conservation Status

Global: Demonstrably widespread, abundant, and secure
State: Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Historical records only - current condition unknown.
Comments on Rank:

Detailed Description: No Date: Philbrick specimen (S.N.) at NHA.

General Area: River.

General Comments:

Management

Comments:

Location

Survey Site Name: Contoocook River
Managed By: Contoocook Island Park

County: Merrimack

Town(s): Concord

Size: 152.8 acres

Elevation: 320 feet

Precision: Within 1.5 miles of the area indicated on the map (location information is vague or uncertain).

Directions: Concord. Contoocook River in Penacook section of Concord.

Dates documented

First reported: No Date

Last reported: No Date

New Hampshire Natural Heritage Bureau - Animal Record

Bald Eagle (*Haliaeetus leucocephalus*)

Legal Status

Federal: Not listed
State: Listed Threatened

Conservation Status

Global: Demonstrably widespread, abundant, and secure
State: Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2002-2012: Wintering eagles regularly observed at locations along the Merrimack River, day perching and night roosts: 2013: 1 eagle observed on 1/4. 1 eagle observed on 1/12. 3 eagles observed at a single location 1/29. 2 eagles observed at a single location on 2/1. 2 eagles observed at a single location on 2/15. 1 eagle observed on 2/23. 1 eagle observed on 3/4. 2012: Solitary eagles observed at 3 separate locations on 1/7. 1 eagle observed on 1/12. 1 eagle observed on 1/17. 1 eagle observed on 1/19. Solitary eagles observed at 3 separate locations on 1/23. 1 eagle observed on 1/25. 1 eagle observed on 2/2. 1 eagle observed on 2/9. 1 eagle observed on 2/14. 2 eagles observed at a single location, and solitary eagles observed at 5 separate locations on 2/25. 2 eagles observed at a single location on 2/28. Solitary eagles observed at 2 separate locations on 3/6. 1 eagle observed on 12/11. 2011: 1 eagle observed on 1/5. 1 eagle observed on 1/6. 1 eagle observed on 1/8. Solitary eagles observed at 2 separate locations on 1/9. 1 eagle observed on 1/11. Solitary eagles observed at 2 separate locations on 1/13. 1 eagle observed on 1/20. 2 eagles observed at a single location on 1/31. Solitary eagles observed at 2 separate locations on 2/3. Solitary eagles observed at 2 separate locations on 2/7. 1 eagle observed on 2/9. 2 eagles observed at a single location and solitary eagles observed at 2 separate locations on 2/15. Solitary eagles observed at 2 separate locations on 2/17. 1 eagle observed on 2/22. 2 eagles observed at 2 separate locations and a solitary eagle at a separate location on 2/26. 1 eagle observed on 2/28. 1 eagle observed on 3/2. Solitary eagles observed at 2 separate locations on 3/8. 2 eagles observed at a single location, and a solitary eagle observed at a separate location on 3/15. 1 eagle observed on 12/27. 1 eagle observed on 12/29. 2010: 3 eagles observed at a single location, 2 observed at a single location, and a solitary eagle observed at a separate location on 1/9. 1 eagle observed on 12/3. 1 eagle observed on 12/17. 1 eagle observed on 12/22. 2 eagles observed at a single location on 12/28. 2 eagles observed at a single location on 12/30. 2009: 2 eagles observed at a single location, and a solitary eagle observed at a separate location on 1/10. 3 eagles observed at a single location on 2/28. 2008: 2 eagles observed at a single location, and solitary eagles observed at 3 separate locations on 1/12. 2 eagles observed at a single location and a solitary eagle observed at a separate location on 2/23. 2007: Solitary eagles observed at 2 separate locations on 1/13. 1 eagle observed on 2/24. 2006: 1 eagle observed on 2/25. 2005: 2 eagles observed at a single location on 1/8. 2 eagles observed at a single location and a solitary eagle observed at a separate location on 2/24. 2 eagles observed at a single location on 2/26. 2004: Solitary eagles observed at 5 separate locations on 1/10. 1 eagle observed on 1/27. 2003: 1 eagle observed on 1/7. 1 eagle observed on 1/9. 1 eagle observed on 2/2. Solitary eagles observed at 2 separate locations on 2/5. 1 eagle observed on 3/4. 2002: 1 eagle observed on 1/12. 1 eagle observed on 12/18. 1993: Sightings near Hannah Dusting parking area, but no defined roost or perch site. Perching on east side of Sewall's Falls Dam area. Perching near Horseshoe Pond. Perching on both sides from Bridge Street to Manchester Street. Perching on east side of the river near Blue Seal Feeds. No perching in last few years near Garvins Falls Dam. Bow Power Plant: On River Road on west side of river, possible roosting just north of liquor store. Perching in Hooksett on both sides of river just north of Route 3 bridge. 1991: The most active locations are Sewalls Falls, wetlands near I-393, Bow Power Plant and Hooksett boat ramp. Location of eagles depends on availability of open water and other factors.

General Area:

General Comments:

Management

Comments:

Location

Survey Site Name: Merrimack River at Concord

Managed By: Merrimack River State Forest

County: Merrimack

Town(s): Concord

Size: 418.7 acres

Elevation: 190 feet

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

Directions: Various locations along both banks of the Merrimack River, from Franklin south to Hooksett.

Dates documented

First reported: 198?

Last reported: 2013-03-04

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

Fowler's Toad (*Bufo fowleri*)**Legal Status**

Federal: Not listed
State: Special Concern

Conservation Status

Global: Demonstrably widespread, abundant, and secure
State: Rare or uncommon

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2012: Area 12924M: 3-5 adult males heard. 2011: Area 12924M: 1 adult male observed.
Additional males heard calling from nearby wetland.

General Area: 2012: Area 12924M: Site is connected to both rivers [Merrimack and Contoocook] at high flows, but becomes more isolated in the summer. Lack of rain in spring of 2012 has reduced it to a grassy pool. 2011: Area 12924M: Road adjacent to gravel pit near Merrimack River.

General Comments:
Management
Comments:

Location

Survey Site Name: Hannah Dustin Historic Site
Managed By: Hannah Dustin Historic Site

County: Merrimack
Town(s): Boscawen
Size: 1.9 acres

Elevation:

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

Directions: 2011: Area 12924M: River Road, Boscawen, near Route 4 overpass.

Dates documented

First reported: 2011-05-26
Last reported: 2012-04-21

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

Wood Turtle (*Glyptemys insculpta*)**Legal Status**

Federal: Not listed
State: Special Concern

Conservation Status

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

Description at this Location

Conservation Rank: Fair quality, condition and/or landscape context ('C' on a scale of A-D).

Comments on Rank:

Detailed Description: 2006: Area 11662: 1 adult female seen.

General Area: 2006: Area 11662: On lawn behind old mill building.

General Comments:

Management

Comments:

Location

Survey Site Name: Contoocook River, Penacook

Managed By:

County: Merrimack

Town(s): Concord

Size: .4 acres

Elevation:

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

Directions: Behind Briar Pipe Apts, Washington St, Penacook.

Dates documented

First reported: 2006-06-19

Last reported: 2006-06-19

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.

APPENDIX 10

Cultural Resources

Appendix 10

Cultural Resources

The Penacook Lower Falls project is located one third of a mile downstream from the Penacook Upper Falls Hydroelectric facility (LIHI Certificate # 52) on the Contoocook River in the Village of Penacook, New Hampshire. As part of its licensing process with the Low Impact Hydropower Institute, Briar Hydro Associates submitted a Request for Project Review to the New Hampshire Division of Historical Resources and provided a boundary map encompassing both the Penacook Upper and the Penacook Lower Project boundaries.

On February 9, 2010 the New Hampshire Division of Historical Resources confirmed that there are no historic properties affected by the project. (see Appendix 10-1)

APPENDIX 10-1
NH Division of Historical Resources Response to Request for Project Review
dated February 8, 2010

Please mail the completed form and required material to:

New Hampshire Division of Historical Resources
State Historic Preservation Office
Attention: Review & Compliance
19 Pillsbury Street, Concord, NH 03301-3570

DHR Use Only

R&C #

1719

Log In Date

2/5/10

Response Date

2/8/10

Sent Date

2/9/10

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

- ☐ This Project is funded by the American Recovery and Reinvestment Act of 2009
☒ This is a new submittal ☐ This is additional information relating to DHR Review #:

GENERAL PROJECT INFORMATION

Project Title Penacook Upper Falls Hydroelectric Project
Project Location 24 Crescent Street, Penacook NH 03303 Boscawen
Tax Map & Lot # Map P 1 Block 7 Lot 8
NH State Plane - Feet Geographic Coordinates: Easting 1003550 Northing 286498 WGS84 datum
(see RPR Manual and R&C FAQ's for help accessing this data)
Lead Federal Agency
(Agency providing funds, licenses, or permits)
Federal Energy Regulatory Commission Permit or Job Reference # FERC No. 6689
State Agency and Contact (if applicable)
Permit or Job Reference #

APPLICANT INFORMATION

Applicant Name Briar Hydro Associates
c/o Essex Hydro Associates LLC
Street Address 55 Union St 4th Fl Phone Number (617) 367-0032
City Boston State MA Zip 02108 Email Briar@essexhydro.com

CONTACT PERSON TO RECEIVE RESPONSE

Name/Company Essex Hydro Associates as GP of Briar Hydro Associates
Street Address 55 Union St 4th Fl Phone Number (617) 367-0032
City Boston State MA Zip 02108 Email sb@essexhydro.com

Please refer to the Request for Project Review manual for direction on completing this form. Submit one copy of this project review form for each project for which review is requested. Include a 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, the Division of Historical Resources (DHR) may require additional information to complete our review. All items and supporting documentation submitted with a review request, including photographs and publications, must be retained by the DHR as part of its review records. Items to be kept confidential should be clearly identified. For questions regarding the DHR review process, please visit our website at: <http://www.nh.gov/nhdhr/review> or contact the R&C Specialist at 603.271.3558.

Please
in
Future

PROJECT BOUNDARIES AND DESCRIPTION

PROJECTS CANNOT BE PROCESSED WITHOUT THIS INFORMATION

REQUIRED

- ☒ Attach the relevant portion of a 7.5' USGS Map (photocopied or computer-generated) *indicating the defined project boundary*. SEE APPENDIX A "USGS Quadrangle Map"
- ☒ Attach a detailed written description of the proposed project. Include: (1) a narrative description of the proposed project; (2) site plan; (3) photos and description of the proposed work if the project involves rehabilitation, demolition, additions, or alterations to existing buildings or structures; and (4) a photocopy of the relevant portion of a soils map (if accessible) for ground-disturbing projects.

Architecture SEE APPENDIX B "Peruak Upper Falls Project Location and Operations"

Are there any buildings or structures within the project area? ☐ Yes ☒ No

If yes, submit all of the following information:

Approximate age(s):

- ☐ Photographs of *each* building located within the project area along with a photo key. Include streetscape images if applicable. (Digital photographs are accepted. All photographs must be clear, crisp and focused)
- ☐ DHR file review conducted on

Please note that as part of the review process, the DHR may request an architectural survey or other additional information.

Archaeology

Does the proposed undertaking involve ground-disturbing activity? ☐ Yes ☒ No

If yes, submit all of the following information:

- ☐ Project specific map and/or preliminary site plan that fully describes the project boundaries and areas of proposed excavation.
- ☐ Description of current and previous land use and disturbances.
- ☐ Any available information concerning known or suspected archaeological resources within the project area.

Please note that as part of the review process, the DHR may request an archaeological survey or other additional information.

DHR COMMENT

This Space for Division of Historical Resources Use Only

- ☐ No Potential to cause Effects ☒ Additional information is needed in order to complete our review
- ☐ No Adverse Effect ☒ No Historic Properties Affected ☐ Adverse Effect

Comments: _____

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 Signature: Wanda Ray Wilson DSHPO

Date: 2/8/2010

APPENDIX 11

Recreation

Appendix 11

Recreation

Prior to licensing, there were no existing developed recreational facilities within the project vicinity. As part of the FERC licensing process, The United States Fish and Wildlife Service recommended that the Applicant provide access to anglers across project lands including a boat-launching ramp below the dam and a small parking area. Appendix 11-1 shows the location of the boat ramp and a diagram of the constructed facility.

BrHa has constructed and currently maintains a parking area and boat launch facility in a cove on the southern shore of the Contoocook River approximately 700 feet downstream of the powerhouse. The boat launch area provides access to the Merrimac River and is widely used by local fishermen, daytime boaters and by local kayak clubs.

Moderate levels of angling have been observed in the project's impoundment and on the southern bank of the tailrace during the 27 years of project operation. Access is gained to the southern bank of the tailrace by crossing BrHA property immediately downstream of the powerhouse or from property surrounding the boat launch ramp. The abandoned leather mill prevents access on the northern bank of the tailrace area.

APPENDIX 11-1
Exhibit E – Boat Ramp

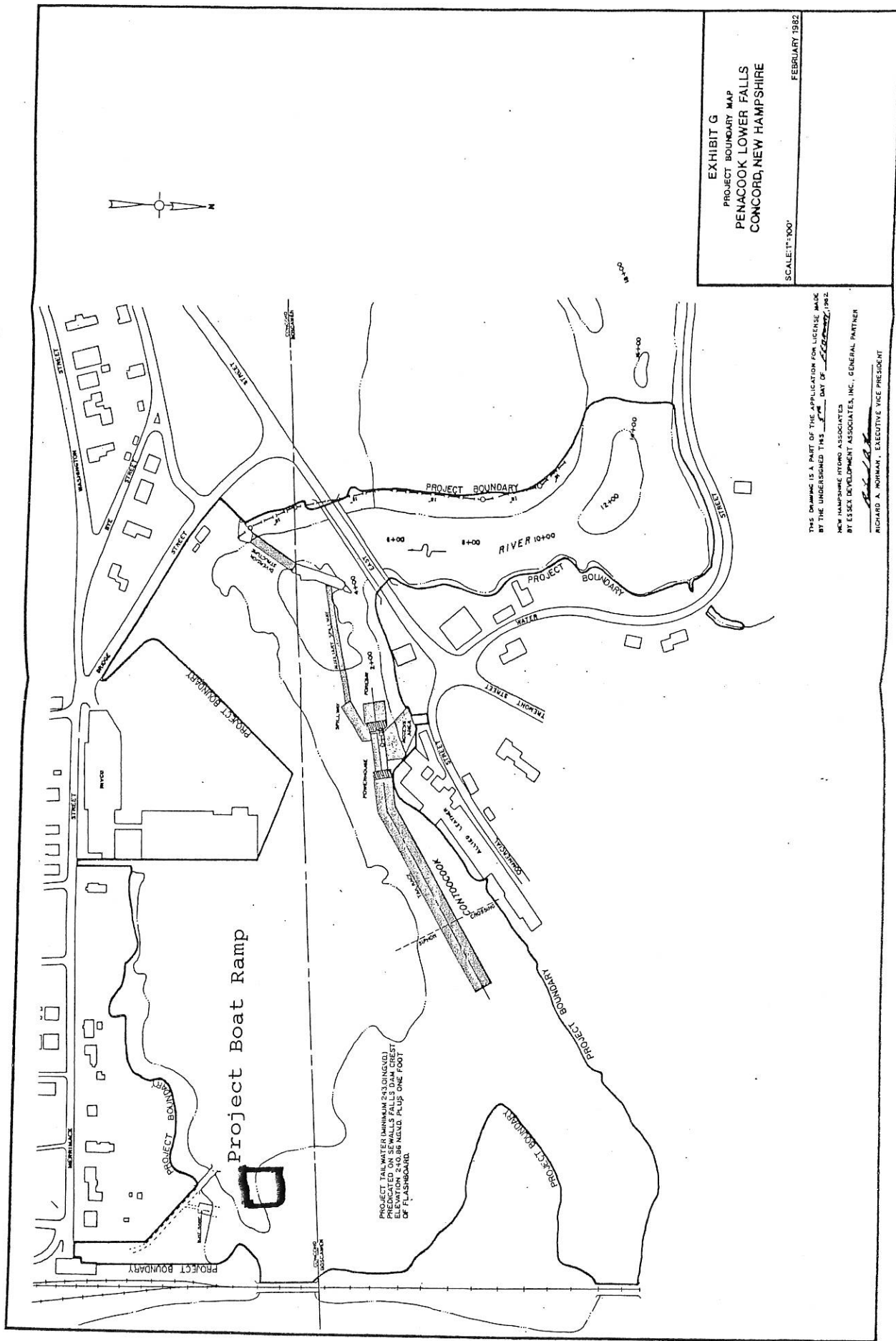


EXHIBIT G
PROJECT BOUNDARY MAP
PENACOOK LOWER FALLS
CONCORD, NEW HAMPSHIRE

SCALE: 1"=100'

FEBRUARY 1982

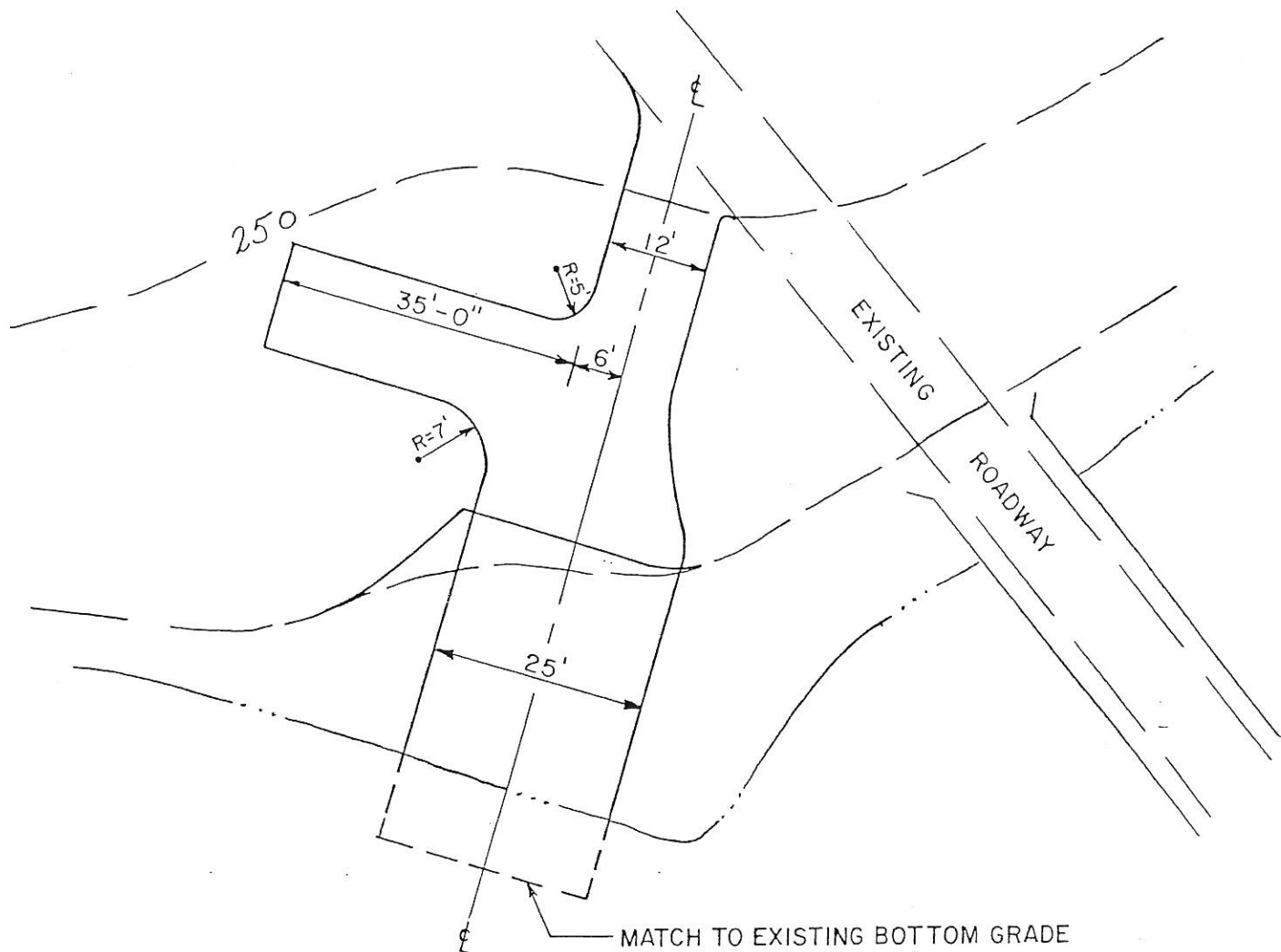
THIS DRAWING IS A PART OF THE APPLICATION FOR LICENSE MADE BY THE UNDERSIGNED THIS 5th DAY OF February, 1962.

NEW HAMPSHIRE HYDRO ASSOCIATES

BY ESSEX DEVELOPMENT ASSOCIATES, INC., GENERAL PARTNER

Richard B. Thompson

RICHARD A. NORMAN, EXECUTIVE VICE PRESIDENT



NOTE:

- 1.) BOAT RAMP SHALL BE CONSTRUCTED OF CRUSHED GRAVEL INSTALLED 6 INCHES DEEP AND COMPACTED.

THIS DRAWING IS A PART OF THE APPLICATION FOR LICENSE MADE BY THE UNDERSIGNED THIS 5TH DAY OF February, 1982

NEW HAMPSHIRE HYDRO ASSOCIATES
BY ESSEX DEVELOPMENT ASSOCIATES, INC., GENERAL PARTNER

Richard A. Norman
RICHARD A. NORMAN, EXECUTIVE VICE PRESIDENT

EXHIBIT E
BOAT RAMP

PENACOOK LOWER FALLS
CONCORD, NEW HAMPSHIRE

SCALE: 1" = 20' FEBRUARY 1982