

APPENDIX 4

Project Location and Operations

APPENDIX 4

Project Location and Operations

The Jackson Mills Hydroelectric facility (“the facility”) is located in downtown Nashua, New Hampshire approximately 700 feet downstream from the crossing of Main Street (old U.S. Route 3) over the Nashua River (see Exhibit 4-1). The area in the vicinity of the dam is urban in character and typical of an old New England manufacturing city. The Nashua public library is located on the south bank of the river. The former powerhouse on the north bank currently houses a restaurant, which contains some of the features of the old operation. The new powerhouse was constructed adjacent to the old powerhouse with the turbine inlet located beneath the restaurant.

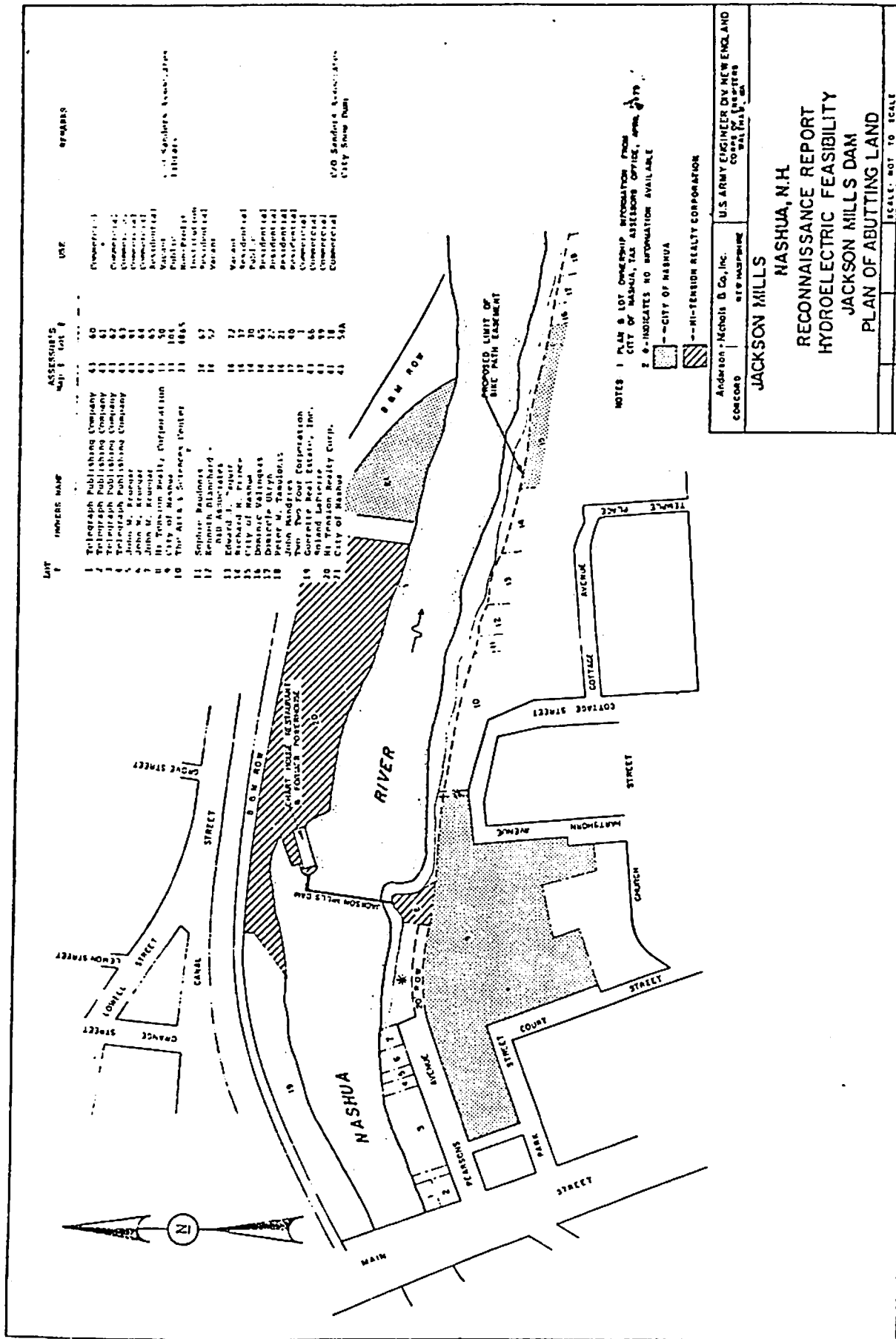
The land uses along the north side of the river to the east of the restaurant are predominantly industrial and to the west they are commercial. On the south side of the river the land usage to the east of the library is predominantly urban residential with commercial uses lying to the west. Along both banks above and below the dam the vegetation consists of planted ornamentals and those types typical of disturbed ground.

The facility is operated as a fully automated run of river project. At times of non-generation, the project is licensed to release an outflow equal to an instantaneous minimum of 207 cfs which is .50 cfs for the 414 square mile drainage area above the project site. When inflows fall below 207 cfs, inflow is equal to outflow.

Construction of the Jackson Mills Dam was completed in 1920. The dam is designed as a gravity-type stone masonry spillway, with a concrete cap and a concrete extension and concrete-faced stone gravity-type abutments. The height of the dam is 33 feet and the length is 180 feet. A order amending the exemption was issued on January 11, 2013 (Exhibit 2-5) approving the installation of a 6-foot high pneumatic crest gate system on 140 feet of the spillway. A semi-Kaplan Turbelec turbine is installed in the powerhouse. The generating unit consists of one single-regulated propeller-type turbine. The installed capacity of the unit is 1,100 kW.

APPENDIX 4-1

Jackson Mills Hydro Project Location Map



LOT #	OWNER NAME	ASSESSMENT May 1, 1970	USE	REMARKS
1	Telegraph Publishing Company	43	Commercial	
2	Telegraph Publishing Company	43	Commercial	
3	Telegraph Publishing Company	43	Commercial	
4	Telegraph Publishing Company	43	Commercial	
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NOTES: 1. PLAN & LOT OWNERSHIP INFORMATION FROM CITY OF NASHUA, TAX ASSESSORS OFFICE, 1970.
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Jackson Mills Nashua, N.H. RECONNAISSANCE REPORT HYDROELECTRIC FEASIBILITY JACKSON MILLS DAM PLAN OF ABUTTING LAND	
Anderson, Nichols & Co., Inc. Concord, N.H.	U.S. ARMY ENGINEER DISTRICT NEW ENGLAND Corps of Engineers Wallingford, Conn.
SCALE: NOT TO SCALE DATE: MAY, 1970	

APPENDIX 5

Description of Project Flows

APPENDIX 5

Description of Project flows

The project is operated as a strict run-of-river facility. The project is required to discharge an instantaneous flow of 207 cfs or inflow to the project area whichever is less.

The average annual run-off in the Nashua River basin is about 24 inches or nearly 60 percent of annual precipitation. This amount of a run-off rate of between 1.7 and 1.8 cfs per square mile of drainage area, results in a total average flow at Nashua, from the net drainage area of 414 square miles, of about 720 cfs. Though precipitation is not uniformly distributed throughout the year, the melting winter snow cover results in about 40 percent of the annual run-off during the spring months – March, April and May. Flows are usually lowest during July, August and September.

The U.S. Geological Survey has recorded flows on the Nashua River at East Pepperell, Massachusetts (net drainage area equals 316 square miles) continuously since 1935. The long-term average at this state is 557 cfs. The peak discharge at the gauge was 20,900 cfs on 20 March 1936. The minimum flow was 1.1 cfs on 13 August 1939. A flow duration curve for the period of record (1936-1977) is shown in Appendix 2-3.

APPENDIX 6

Water Quality

APPENDIX 6

Water Quality

The entire length of the Nashua River in New Hampshire has been assigned an objective water quality standard of Class C by the New Hampshire Water Quality and Pollution Control Commission ("the NHWSPCC). The water quality "Assessment Units" surrounding the facility are listed as Category 5. Category 5 waters are "Impaired or threatened for one or more designated uses by a pollutant(s), and requires a TMDL. These conditions existed prior to development of the project. As part of its Exemption application submitted to the FERC, the facility received a 401 certification from the NHWSPCC confirming that the "construction, operation and maintenance of the project would not cause a violation of any applicable water standards" (see Appendix 2-2).

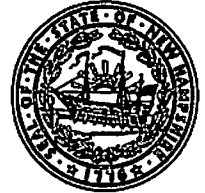
Due to the fact that the project's 401 certification was issued almost 28 years ago, the project has approached Ted Walsh, Surface Water Monitoring Coordinator at the NHDES, Watershed Management Bureau. The project conducted a Water Quality monitoring program to confirm the minimal impact of the project on ambient water quality criteria, the impact of pond fluctuations on aquatic habitat, the maintenance of adequate minimum flows to protect downstream aquatic habitat and the existence of adequate upstream and downstream fish passage in 2010 (Appendix 6-1). The project is currently conducting Water Quality tests and all results from the monitoring program will be forwarded to the Low-Impact Hydropower Institute and all relevant hydroelectric agencies upon their completion.

APPENDIX 6-1

**NH Department of Environmental Services Letter dated December 13, 2010
Water Quality Status of Nashua River**



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES



Thomas S. Burack, Commissioner

December 13, 2010

Fred Ayer, Executive Director
Low Impact Hydropower Institute
34 Providence Street
Portland, Maine 04103

RE: Water Quality Status of Nashua River for Low Impact Hydropower Institute Certification of Jackson Mills Hydroelectric Project (FERC No. 7590)

Dear Fred:

As you know, Essex Hydro Associates (EHA) has applied for Low Impact Hydropower Certification from the Low Impact Hydropower Institute (LIHI) for the Jackson Mills Hydroelectric Project (FERC No. 7590) on the Nashua River in Nashua, NH. We further understand that to receive LIHI certification, you need a statement from the New Hampshire Department of Environmental Services (DES) stating that the project is not causing or contributing to violations of state water quality standards. As you may recall, on April 14, 2010, the New Hampshire Department of Environmental Services (DES) sent EHA a letter stating what would be needed for DES to determine if the Nashua River in the vicinity of the Jackson Mills hydroelectric project was or was not attaining standards. In specific, the following was stated: "In order for DES to determine if the subject hydroelectric project is causing or contributing to water quality standard violations, additional monitoring and information is needed. In general, data / 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."

The purpose of this letter is to provide you with our assessment of data and information received from EHA in response to our letter of April 14, 2010 and, our conclusions as to whether or not the Jackson hydroelectric project is causing or contributing to New Hampshire surface water quality standard violations.

With regards to water quality, EHA provided data for dissolved oxygen, phosphorus and chlorophyll-a. Monitoring locations in the impoundment (04-NSH) and in the downstream section of the river (02-NSH) were monitored continuously for a minimum 10 day period in July and August 2010 for water temperature and dissolved oxygen using multi-parameter dataloggers. At the time of the deployment and retrieval of the dataloggers a vertical profile of dissolved oxygen and water temperature was measured at the station in the impoundment (04-NSH) to determine if thermal stratification was present. The vertical profiles collected at 04-NSH on July 13th and July 26th indicated that the impoundment was not thermally stratified. In addition, between July 6, 2010 and September 8, 2010, ten samples from each station were collected by the Nashua River Watershed Association and tested by the DES laboratory for total phosphorus and chlorophyll-a. The sampling period including periods of high temperatures and relatively low flows.

DES has assessed the water quality data collected in 2010, and based on this assessment concludes that the water quality in the impoundment and downstream section of the Nashua River, under the dam's current operating conditions, do not appear to be violating existing water quality criteria for dissolved oxygen, phosphorus and chlorophyll-a. In DES's April 14th letter providing monitoring recommendations we also provided the assessment status for the parameters of concern for the reaches of the Nashua River upstream and downstream of the Jackson Mills Hydroelectric Project. Table 1 provides an update to the current assessment status of the river reaches in question for the parameters collected this summer. Our assessments were based on the methodology described in the DES Consolidated Assessment and Listing Methodology (CALM)¹. This information will be used in the next Section 305(b)/303(d) Water Quality Assessment report which is expected to be issued by DES in early 2012. Please note that the assessment status listed in Table 1 could change if water quality criteria change and/or if additional data collected between now and the 2012 report indicate water quality violations.

Table 1. Assessment Status for Water Quality Monitoring Parameters at Jackson Mills Dam

Assessment Unit	Location	Parameter	Designated Use	Assessment Status based upon summer 2010 sampling
NHIMP700040402-05	Jackson Mills 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 ^B
NHRJV700040402-09	Downstream of Jackson Mill 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 ^A
		Water Temperature	Aquatic Life	No numeric criteria ^B

^A DES does have numeric water quality criteria for the aquatic life designated use for total phosphorus and chlorophyll-a in impoundments 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 04-NSH in assessment unit NHIMP700040402-05 during the summer of 2010.

	TP (ug/L)	Chl-a (ug/L)
2010 Median 04-NSH	23.5	5.6
Oligotrophic	< 8	< 3.3
Mesotrophic	≤ 12	≤ 5
Eutrophic	≤ 28	≤ 11

¹ 2010 Section 305(b) and 303(d) Consolidated Assessment and Listing Methodology. New Hampshire Department of Environmental Services. NHDES-R-WD-10-3. February, 2010. Available at <http://des.nh.gov/organization/divisions/water/wmb/swqa/documents/2010calm.pdf>.

December 13, 2010

Page 3 of 3

^B 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.

On October 14, 2010 Essex Hydro Associates provided DES with information regarding minimum flows and pond fluctuations at the Jackson Mills Hydroelectric Project. Essex Hydro Associates confirmed that the facility is operated as a fully automated run of river project. The project is licensed to release and outflow of equal to an instantaneous minimum of 207 cfs which is 0.50 cfs for the 414 square mile drainage upstream of the project site. This aquatic base flow of 0.5 cfs per square mile of upstream drainage is consistent with the 1981 United States Fish and Wildlife Service "Interim Policy for New England Streams Flow Recommendations". Due to the operation of the facility as a run of river project, Essex Hydro Associates also provided information indicating that any water level fluctuations are "controlled by natural changes in the river flow and minimum flow requirements have been equal to the lesser of 207 cfs or project inflow".

Regarding the issue of fish passage, DES has been informed by Essex Hydro Associates that they are working with John Warner of the U.S. Fish and Wildlife Service (USFWS) and Carol Henderson of New Hampshire Fish and Game (NHFG) to schedule site visits during the 2011 spring and early summer spawning seasons. The purpose of these visits would be to assess the modifications made in 2008 to the fish ladder entrance and exits and rehabilitation of the tailrace entrance.

In summary, based on the current operation of the dam, current water quality standards, the water quality data collected in 2010 and information provided to DES by Essex Hydro Associates, and assuming that the NHFG and USFWS conclude in 2011 that they are satisfied with the fish passage improvements, it appears the Nashua River immediately upstream and downstream of the Jackson Mills Hydroelectric Project is not causing or contributing to water quality standard violations at this time. As previously noted, however, please note that this assessment could change in the future should a change in water quality criteria and/or new data indicate water quality violations. It could also change if the NHFG and/or USFWS conclude that fish passage is not adequate.

Should you have any questions or require additional information 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: Steve Hickey, Essex Hydro Associates, LLC
Carol Henderson, New Hampshire Fish and Game
John Warner, USFS

APPENDIX 7

Fish Passage and Protection

APPENDIX 7

Fish Passage and Protection

Migratory fish pass the facility using upstream and downstream passage, installed in 1983, in accordance with the design criteria of the USF&WS. As a condition of issuance, the FERC Exemption requires the Jackson Mills Hydro facility ("the project") to comply with any terms and conditions that Federal and State fish and wildlife agencies have determined appropriate for the project. The FERC reserved the right to revoke the exemption if any term or condition of the exemption was violated. Nashua Hydro Associates ("NHA") believes this condition constitutes a legal obligation to install fish passage facilities.

In its FERC Exemption application dated September 1983, NHA agreed to comply with comments of the the National Oceanic and Atmospheric Administration; the U. S. Fish and Wildlife Service; and the New Hampshire Fish and Game Department. Letters from each of those agencies are included as Appendices 7.1. The agencies concurred that the fish passage facilities required for the project included the installation of upstream and downstream passage facilities installed in accordance with the design criteria of the USF&WS. Upstream and downstream passage was installed in 1983 and have operated successfully since then. During these operating years the agencies have periodically inspected the fish passage facilities (Appendix 7-2). Minor deficiencies were noted during these inspections that were addressed by the project. The Facility remains in compliance with fish passage requirements at the Jackson Mills dam.

APPENDIX 7-1

FERC Exemption Application Agency Comments Regarding Fish Passage



United States Department of the Interior

FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
P.O. BOX 1518
CONCORD, NEW HAMPSHIRE 03301

Mr. Thomas A. Tarpey
Essex Development Associates, Inc.
99 North State Street
Concord, New Hampshire 03301

MAR 1 6 1983

Dear Mr. Tarpey:

This is in response to your letter, dated February 16, 1983, regarding a categorical exemption from licensing for the Jackson Mills hydroelectric project, FERC No. 3229, located on the Nashua River in Nashua, New Hampshire.

Federal Energy Regulatory Commission Order No. 202 covering categorical exemptions requires that you obtain two certifications from us. These relate to the presence of significant populations of migratory fish at the project and to impacts on Federally designated endangered and threatened species and their critical habitat. For projects with proposed capacities exceeding 100 kW, Order 202 also requires inclusion in the exemption of any measures which we prescribe for the restoration of migratory fish through the project area.

Based on our knowledge of the project area, we can provide you with the necessary certifications for your Notice of Exemption. The Nashua River does not now contain significant populations of migratory fish at the Jackson Mills dam, nor will the project adversely affect Federally designated endangered and threatened species or their critical habitat.

It is necessary, however, to include certain measures in the exemption which will facilitate restoration of migratory fish through the project area. There currently are plans to restore American shad, alewife, and blueback herring to most of the Nashua River. Because the Jackson Mills dam is the first barrier on the river, provision of fish-passage facilities at this site is essential if restoration of migratory fish in the river is to be accomplished. As currently scheduled, fish-passage facilities will be required at this project as soon as 1985 or one year following completion of such facilities at the Lowell hydroelectric project, FERC No. 2790, located on the Merrimack River in Lowell, Massachusetts. The Exemptee will be responsible for the design, construction, operation and maintenance of fish-passage facilities at this site, which shall include provisions for upstream and downstream passage of shad, alewives and blueback herring through the project area. However, we will need to approve conceptual and final plans of these facilities prior to their construction.

The restoration of migratory fish through your project area will require adequate instream flow releases. In order to maintain

aquatic habitat in the Nashua River as being suitable for fish restoration, instream flow releases from the project should be at least 207 cfs or inflow to the project area, whichever is less. This flow is our approximation of the historical (unregulated) median August flow at the site, and it represents a discharge which we feel will adequately maintain aquatic habitat in the river. There will also need to be additional flow releases at this project to operate the fish-passage facilities. However, a determination of additional water needs must await development of conceptual plans of these facilities.

Summarizing, certifications pursuant to Sections 4.112(b)(2) and (4) of FERC Order No. 202 are provided. The following measures are to be included in their entirety in the exemption in accordance with Section 4.112(b)(5):

1. The Exemptee shall provide fish-passage facilities at this project as per specifications of the Fish and Wildlife Service one year following the completion of such facilities at the Lowell hydroelectric project, FERC No. 2790 (expected to be finished as soon as 1984).
2. The Exemptee shall discharge from the project an instantaneous flow of 207 cfs or inflow to the project area, whichever is less. Additional releases will be provided to operate fish-passage facilities at this site as per specifications of the Fish and Wildlife Service.

Please let us know if you have any questions regarding these comments or if you require further assistance.

Sincerely yours,

Gordon E. Beckett

Gordon E. Beckett
Supervisor



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Services Division
Habitat Protection Branch
7 Pleasant Street
Gloucester, MA 01930

May 4, 1983

Mr. Thomas A. Tarpey
Essex Development Associates, Inc.
99 North State Street
Concord, New Hampshire 03301

Dear Mr. Tarpey:

This is in response to your letter of February 16, 1983, regarding a categorical exemption from licensing for the Jackson Mills hydroelectric project (FERC #3229) located on the Nashua River in Nashua, New Hampshire.

It does not appear that this project will significantly impact resources for which we are responsible. However, there is a potential for restoration of anadromous fish above the project area. If restoration is initiated, it will be essential that adequate upstream and downstream fish passage facilities be constructed. Design of these facilities should be coordinated with the United States Fish and Wildlife Service.

Sincerely,



Ruth Bahfous
Branch Chief



STATE OF NEW HAMPSHIRE



FISH AND GAME DEPARTMENT

CHARLES E. BARRY
EXECUTIVE DIRECTOR

Box 2003
34 Bridge Street
Concord, N. H. 03301
(603) 271-3421

March 10, 1983

Thomas A. Tarpy
Project Manager
Essex Development Associates, Inc.
Six Lawrence Street
Lawrence, MA 01840

Dear Tom:

This is in reference to your correspondence of February 16, 1983 requesting certification under FERC Order No. 202, for a categorical exemption for the Jackson Mills Hydroelectric project.

- 1) The Fish and Game Department certifies, pursuant to Section 4.112(b)(2) that there are no significant existing populations of migratory fish at the project site.
- 2) Pursuant to Section 4.112(b)(5), there are plans presently underway to restore anadromous (migratory) fish populations to the Merrimack River system. The Nashua River is considered a vital part of the restoration program, and as such, fish passage facilities will have to be provided for at the proposed project site.

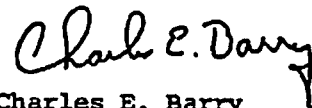
Presently, the timeframe for providing fish passage in the mainstem of the Merrimack calls for completion of the project (fishway) at the Pawtucket dam in Lowell, by 1985. This would then allow for passage of migrating fishes as far north as the Amoskeag dam in Manchester. This essentially would allow fish at your project site by spring of 1986.

Thomas Tarpey
Page 2
March 10, 1983

You also made mention of constructing the power house on the left bank of the river rather than on the other side as was originally proposed, and authorized by FERC on February 6, 1981. This change of plans does not cause us any environmental concern.

If you should have any further questions please contact George R. Morrison our Fish and Wildlife Ecologist.

Sincerely,

A handwritten signature in cursive script that reads "Charles E. Barry". The signature is written in dark ink and is positioned above the printed name and title.

Charles E. Barry
Executive Director

CEB/cjl

APPENDIX 7-2

US Fish and Wildlife Service Inspection of Fishway at Jackson Mills Dated June 5, 2015



United States Department of the Interior

FISH AND WILDLIFE SERVICE

300 Westgate Center Drive
Hadley, MA 01035-9589



June 5, 2015

MEMORANDUM

To: Supervisor; New England Field Office, Concord N.H.
Attention: John Warner, Assistant Supervisor

Supervisor; Merrimack River Coordinator's Office, Nashua N.H.
Attention: Joe McKeon, Merrimack River Coordinator

From: Bryan Sojkowski, P.E., Hydraulic Engineer, Fish Passage (USFWS)

Subject: Inspection of fishways at Jackson Mills Hydroelectric Project (FERC #7590)

An inspection of the fishways at the Jackson Mills Hydroelectric Project was performed on Tuesday, 05/19/2015. The agency team included Bryan Sojkowski (USFWS) and Michael Bailey (USFWS). The licensee, City of Nashua, was represented by Dave Sherman (Operations Manager), Dave Wyatt (Hydro Operator), and Sarah Marchant (Community Development Division Director). The inspection began around 2:30 pm; river flow was around 280 cfs. A separate inspection form summarizing general fish passage items at this site is attached.

1. Fishway Operating Window

The existing fish ladder at the Jackson Mills site currently operates from dusk (7:00am) to dawn (8:00pm) as part of their exemption, according to Dave Sherman. This causes fish to have to hold within the turnpools during the night time hours. It is recommended that the fishway be operated 24 hours per day during the migratory season in order to allow fish to move at night and to reduce the stress induced by lack of oxygen and forcing the fish to hold. Stocking efforts of river herring are ongoing and Jackson Mills will likely see more of these species utilizing the ladder in the future.

2. Fish Ladder Damage

According to Dave Wyatt, the lowermost leg of the fish ladder is prone to damages that occur frequently during high water events. The spill from the top of the dam lands directly onto the fish ladder in the area displayed in Figure 1. It is recommended that this spill is diverted away from the fishway in order to reduce the maintenance involved in repairs and potential for the fish ladder to be inoperable during the migratory season.



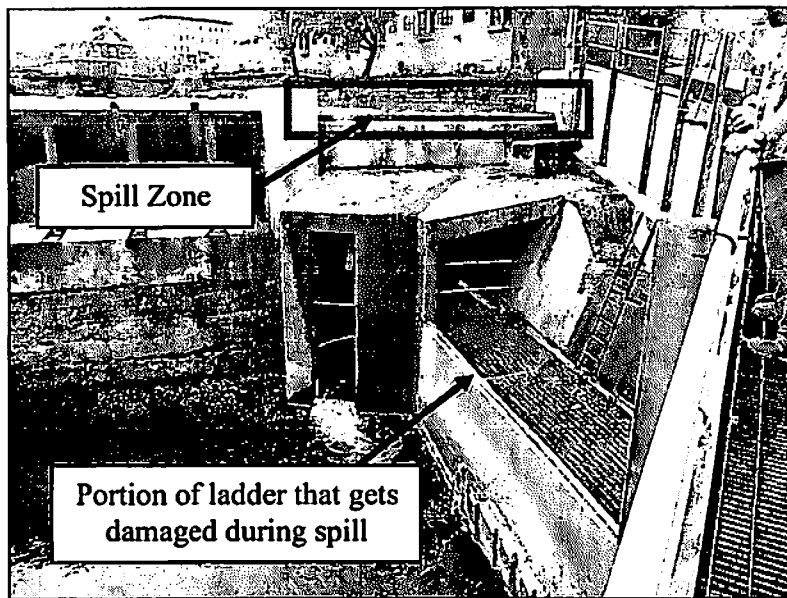


Figure 1 – Portion of Fish Ladder Prone to Damage

3. Fish Ladder Hydraulics

Overall the hydraulics throughout the fish ladder looked acceptable. There was some higher than normal turbulence below the lowermost baffle in the uppermost leg. It is recommended that Essex schedule a meeting with USFWS engineering personnel to examine the conditions of the baffles in a dewatered state to obtain measurements within that zone. These measurements will be compared to existing design plans to identify any discrepancies or fixes that may be required.

4. Entrance Conditions

The entrance nearest to the face of the dam was operating under a plunging flow regime during the site visit, as displayed in Figure 2, which limits the fish passage efficiency for river herring as they are not proficient leapers. The energy of the flow is also dissipated very close to the entrance which limits the attraction signal. USFWS engineering personnel advised Dave Wyatt to take out a baffle board in order to obtain a drop in water surface elevation from within the entrance channel to the tailwater of approximately 4-6 inches. The alterations were for the purposes of achieving streaming flow which would produce a tongue of flow that protrudes downstream of the entrance and act as a far field attraction signal. The change was made during the site visit (see Figure 3) and a plug of river herring was witnessed utilizing the entrance. The condition of the other two entrances was acceptable. It is recommended that Essex ensure that all entrances are operating in the same manner and avoid plunging flow by maintaining 4-6 inches of drop.

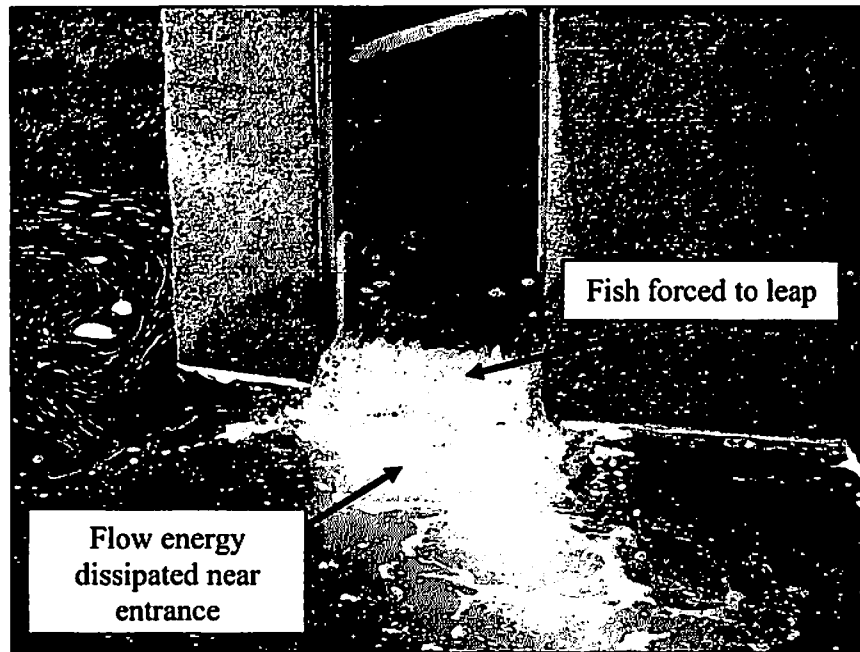


Figure 2 – Plunging Flow

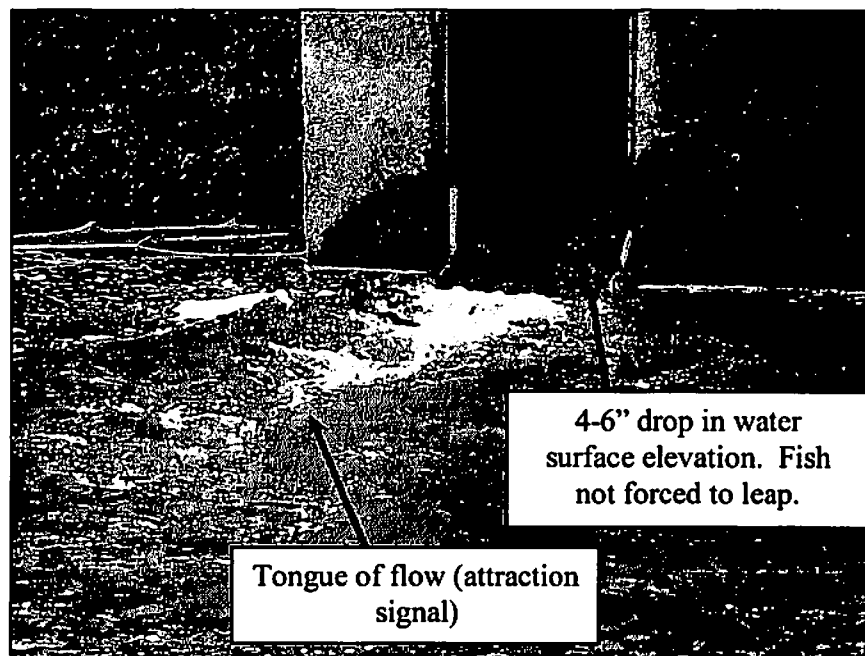


Figure 3 – Streaming Flow (4-6 inches of drop)

**CC: Michael Bailey, USFWS
Doug Smithwood, USFWS
Caleb Slater, MADFG
William McDavitt, NOAA
Matt Carpenter, NHFG
Ben Gahagan, MADMF**

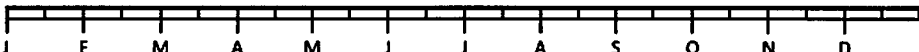


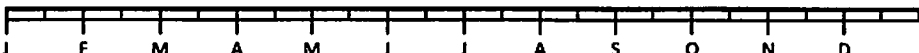

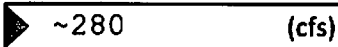
FISHWAY INSPECTION CHECKLIST

Dam/Project Name: Jackson Mills Waterway: Nashua River
 Owner (Organization): City of Nashua, NH Date/Time: 5/19/2015; 2:30pm
 Inspector(s): Bryan Sojkowski and Mike Bailey (USFWS)
 Owner's Representative(s) On-site: Dave Sherman, Dave Wyatt, and Sarah Marchant
 Comments: _____

Reason for inspection: ☐ opening ☒ during season/run ☐ shutdown ☐ construction
☐ other _____

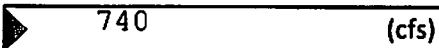

Fishway Status: ☐ de-watered/non-operational ☒ watered/operational
☐ watered or underwater/non-operational ☐ damaged/operational
☐ unknown damaged/non-operational

STATUS

1. Target species for fishway: river herring
 2. U/S migration period: 
 3. U/S fish passage design flow: HIGH  (cfs)
 unknown, FDC to be completed by USFWS but Denil was designed to pass 25 cfs LOW  (cfs)
 4. D/S migration period: 
 5. Drainage & current river flow (if known):  (mi²)  ~280 (cfs)

HYDROLOGY & ECOLOGY

Comments on Hydrology & Ecology: _____

6. Is the fishway and dam part of a hydroelectric project? ☒ YES NO
 7. Is there a powerhouse at this location? ☒ YES NO
 8. Powerhouse hydraulic capacity:  740 (cfs)
 9. Project generating capacity:  1 (MW)
 10. Number and type of hydroelectric turbines:


Francis:	Kaplan: 1	Bulb:	Other:
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HYDROPOWER OPERATIONS

11. Are units sequenced on/off to enhance fish passage? YES NO
 If YES, describe operations: _____


Comments on Hydropower Operations: Kaplan is single-regulated

UPSTREAM FISHWAY EXIT

- | | | | |
|---|---|------|-------|
| 12. Waterway upstream of the exit is clear of debris: | X YES | NO | |
| 13. Headgate and/or headboards are in good condition | X YES | NO | n/a |
| 14. If operational, have headboards been removed or gates raised? | X YES | NO | n/a |
| 15. Are adjustable weirs/baffles set to track HW? | YES | NO | X n/a |
| 16. Trashrack is in place and clean? | X YES | NO | n/a |
| 17. Trashbooms are in place? | YES | NO | X n/a |
| 18. Is a staff gage installed in the fishway exit channel? | YES | X NO | |
| 19. Is a staff gage installed in the headpond? | YES | X NO | |
| 20. Differential head measured between exit and headpond: |  0 | | (ft.) |

 Comments on Exit: _____

LADDER (Not Applicable for Lifts or Locks)

21. Ladder type: ▶ Vertical Slot ▶ Ice Harbor ▶ Pool&Weir X ▶ Denil ▶ Steeppass
 ▶ other: _____
22. Fishway is free of trash and large woody debris: X YES NO
23. Was the fishway de-watered during inspection? YES X NO n/a
24. Concrete walls/floors are free of cracks, erosion, leaks, spalling: YES X NO n/a
 If NO, describe extent and location: Denil is wooden with numerous locations
where leaking is occurring. At this point is not effecting performance
25. Pools are free of sand, rocks, and other material: YES NO X n/a
 If NO, describe accumulations, locations and plan to remove: _____
26. Baffles, baffles plates, and/or or weirs are installed properly, installed at the correct elevation, and were found in good condition: X YES NO n/a
 If NO, describe problems and locations (e.g., number from entrance): _____
27. Has the fishway been inspected for damage that created sharp edges, formed wooden splinters, or resulted in new obstacles (in the flow field) that could injure fish? X YES NO n/a
 Comments: _____
28. Is the protective grating cover in place and structurally sound? X YES NO n/a
29. Representative head measurement (over weir crest, through vertical slot):  _____ (ft.)

 If measured, describe location and method (e.g., pool number from entrance, with staff gage):



 Comments on Ladder: Damage occurs to lowermost leg of fish ladder due to
location of spill during high flows.

- | | | | |
|--|-----|----|-------|
| 30. Was the lift cycled (operated) during this inspection? | YES | NO | X |
| 31. Holding pool is relatively free of debris: | YES | NO | X |
| 32. Hopper raises smoothly without binding or vibrating: | YES | NO | X n/a |
| 33. Mechanical crowder opens/closes/operates properly: | YES | NO | X n/a |
| 34. Crowding proceeds in a manner consistent with design: | YES | NO | |

If NO, describe problems and locations: _____

- | | | | |
|---|-----|----|-----|
| 35. Hopper properly aligns with chute during exit channel transfer: | YES | NO | n/a |
| 36. Is the exit channel (between lift and exit) free of debris? | YES | NO | n/a |
| 37. Other mechanical components appear in good working order: | YES | NO | |

If NO, describe problems and locations: _____

- | | | | |
|--|--|---------------|--|
| 38. Lift appears free of sharp corners that could injure fish: | YES | NO | |
| 39. Lift cycles manually or automatically: | Manual | Automatically | |
| 40. Cycle time of lift (fishing to fishing): |  _____ (min.) | | |
| 41. Hopper volume (if known): |  _____ (ft³) | | |

Comments on Lift: _____


FISHLIFT (Not applicable for Ladders)

- | | | | |
|---|-------|------|-------|
| 42. Is the approach to the entrance(s) free of debris and obstructions? | X YES | NO | |
| 43. Are boards properly installed in the entrance? | X YES | NO | n/a |
| 44. Are adjustable gates tracking TW? | YES | NO | X n/a |
| 45. If operational, does the entrance jet appear appropriate? | X YES | NO | n/a |
| 46. Is a staff gage installed in the fishway entrance channel? | YES | X NO | |
| 47. Is a staff gage installed in the tailwater area? | YES | X NO | |

- | | |
|--|---|
| 48. Differential head measured between entrance and tailwater: |  _____ (ft.) |
|--|---|

Comments on Entrance: Changes were made during site visit to the entrance nearest to the face of the dam to achieve streaming flow. See attached MEMO for more details.

UPSTREAM FISHWAY ENTRANCE

- | | | | |
|--|--|------|-------|
| 49. If the fishway is operational, is the AWS operating? | X YES | NO | n/a |
| 50. AWS flow is driven by: | X Gravity | Pump | Other |
| 51. The AWS intake screen is undamaged and free of debris: | X YES | NO | n/a |
| 52. AWS appears free of debris or other blockages: | X YES | NO | |
| 53. AWS flow (in cfs or % of turbine discharge) |  30 cfs | | |
| 54. Has this flow been verified? | YES | X NO | n/a |

If YES, by whom and/or how? _____

Comments on AWS: _____

AUXILIARY WATER SYSTEM

55. Are there facilities specifically design for d/s passage on site? ☒ YES NO
56. If so, are d/s facilities open and operational? ☒ YES NO n/a
57. Identify all possible SAFE routes for d/s passage at this site:
- ☒ d/s bypass ☐ spillway ☐ floodgate ☐ logsluice ☒ surface collect.

If other routes, describe: _____

58. Flow field in impoundment appears conducive to d/s passage: ☒ YES NO n/a
- If NO, describe problems and locations: Fish witnessed utilizing downstream
passage route during site visit.

59. If appropriate, are overlays in place on trash racks? YES NO ☒ n/a
60. Are screens (or overlays on trashracks) relatively free of debris? YES NO ☒ n/a
61. Is there any evidence of fish impingement on racks or screens? YES ☒ NO
- If YES, describe problems and locations: _____

62. Is the d/s bypass intake adequately lit and free of debris? ☒ YES NO n/a
63. Is the d/s conveyance free of debris and obstructions? ☒ YES NO n/a
64. Are sharp corners evident in the bypass which could injure fish? YES ☒ NO n/a

65. Approximate depth of flow over bypass crest: ▶ (ft.)

66. Does d/s bypass discharge into sufficiently deep pool/water? ☒ YES NO n/a

67. Approximate plunge height from d/s bypass crest to receiving pool/water: ▶ 5 (ft.)

68. Is there evidence of significant predation at receiving pool/water? YES ☒ NO

If YES, describe: _____

69. D/S Bypass flow (in cfs or % of turbine discharge) ▶ 20 cfs (cfs/%)

Comments on D/S Passage: _____

70. Is the facility equipped for trapping & sorting? YES ☒ NO
71. Systems for transfer from tank to truck appear in order? YES NO n/a
72. Do mech. components (e.g., winches, gates) appear serviceable? YES NO n/a
73. Were gates/winches tested during inspection? YES NO

Note any concerns: _____

74. Is there a counting house/room at the site? YES ☒ NO
75. Is the counting window clean and properly lit? YES NO n/a
76. Is CCTV and camera system operating properly? YES NO n/a
77. If counts are automated (e.g. resistance), is it functioning? YES NO n/a

Comments on Counting & Trapping: _____

DOWNSTREAM PASSAGE FACILITIES

COUNTING & TRAPPING

78. Is there an eel pass on site?	YES	X NO	n/a
79. If YES, what is the type of eel pass:			
▶ volitional ramp (TW to HW)	▶ permanent ramp & trap/lift	▶ temporary ramp & bucket	
80. Describe the eel pass substrate media type:			
▶ stud (peg)	▶ bristle	▶ geotextile mat	▶ other: _____
81. Is the eel pass currently operating (i.e., wetted and installed)?	YES	NO	n/a
Identify the water source (i.e., gravity, pump): _____			
82. Is the media clean of debris and watered throughout?	YES	NO	n/a
Describe depth of flow and adequacy of attraction: _____			
Comments on Eel Pass: _____			

OBSERVATIONS ON THE PRESENCE AND/OR MOVEMENT OF FISH DURING INSPECTION:

river herring witnessed passing through the entrance nearest to the dam face once changes were made. Some fish also witnessed in turnpools of fish ladder.

GENERAL COMMENTS:

Note that more river herring will be arriving at this site due to ongoing and past stocking efforts.

RECOMMENDATIONS:

See attached MEMO

APPENDIX 8

Description of Watershed Protection

APPENDIX 8

Description of Watershed Protection

As was previously mentioned, the Jackson Mills dam is located in downtown Nashua, New Hampshire, approximately 700 feet downstream from the crossing of Main Street (old U.S. Route 3) over the Nashua River. The city is located 12 miles north of Lowell Massachusetts on a gently sloping low plateau characterized by stratified and unstratified material of silt, sand, and gravel. The watershed area formed by the Jackson Mills dam impoundment extends approximately 40 acres. The gross reservoir volume is 450 acre-feet. The project is operated as a run of river facility with a net storage capacity of zero. A 200-foot boundary zone extending around the impoundment is bordered by mill buildings, shopping malls and homes (see Exhibit 4-A).

The Nashua River basin has a total drainage area of 529 square miles, with 88 square miles being in New Hampshire, and 441 square miles in Massachusetts. From the central valley of the main stem of the Nashua River to the limits of the watershed, the landscape is broad, forested, and rural, with small towns and cities scattered throughout. The bedrock of the Nashua River watershed is mostly granite and is covered with a mantle of soils, sand, gravel, and rock.

All of the land in the immediate vicinity of the Jackson Mills dam is urban in character, highly developed and privately owned. The flows below The Nashua Hydroelectric facility ("the Nashua Facility") have minimal effect on shoreline erosion due to the predominantly granite and gravel substrates in the tailrace areas. There has been minimal colonization of exposed shorelines by emergent plants within the 200-foot boundary area due to the inhospitable urban landscape. The species that do exist consist of generally old-field primary successional species that are indicative of an area that has previously been cut over and disturbed. Ornamentals such as crabapple trees, cherry trees and roses were planted on the south side of the dam when the Nashua Public Library was built.

Layout and landscaping of the powerhouse grounds was designed in a manner to minimize visual impact and mitigate the project's impact on the surrounding shoreline. As a condition of issuance, the FERC Exemption 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. There have been no deficiencies noted by any agency with jurisdiction for the plant.

APPENDIX 9

Description of Threatened and Endangered Species Protection

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Description of Threatened and Endangered Species Protection

The Jackson Mills plant is located in an urban area with virtually no vegetation present. The following plant species have been reported to be present at stations in the area of Nashua, New Hampshire. They are considered rare by the New England Botanical Club as reported in the 1978 publication from NEBC entitled "Rare and Endangered Vascular Plant Species in New Hampshire." However, as some of the stations date back to the 1800's, the presence of these plants is questionable. They were not found in the vegetation surveys done for the listing provided in Appendix 2-3.

It should be noted that at present, none of these species are on the Federal list of endangered plants of this area nor are they being proposed for inclusion on this list.

Zizania aquatica L. var. augustifolia Hitchc. – wildrice

Allium canadense L. – wild garlic

Prunus Americana Marsh – American plum

Tephrosia virginiana L. Pers. – Goat's Rue

Xanthoxylum americanum Miller – Northern Prickly Ash

Viola pedata L. var. lineariloba DC – Birdfoot violet

No federally listed threatened or endangered plant species are known to occur within the facility area.

As a condition of issuance, the FERC Exemption 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. Based on commitments to comply with both state and federal agency recommendations, the facility operates within FERC and Federal or State Fish and Wildlife Agency guidelines. The project's exemption 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 plant.

A request was submitted to NH Natural Heritage Bureau for a list of all threatened or endangered species in Jackson Mills Project area (Appendix 9-1).

APPENDIX 9-1

New Hampshire Natural Heritage Bureau Datacheck Results Letter dated October 6, 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: 10/6/2015 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau

NHB File ID: NHB15-3242 Town: Nashua

Location: 1 Nashua Drive

Description: Existing Hydroelectric Project on the Nashua River, next to Margarita's Restaurant. Applying to the Low Impact Hydropower Institute.

cc: Kim Tuttle

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

Comments: Please contact NH Fish & Game regarding wildlife concerns.

Vertebrate species	State ¹	Federal	Notes
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	T	--	Contact the NH Fish & Game Dept (see below).
Blanding's Turtle (<i>Emydoidea blandingii</i>)	E	--	Contact the NH Fish & Game Dept (see below).
Peregrine Falcon (<i>Falco peregrinus anatum</i>)	T	--	Contact the NH Fish & Game Dept (see below).
Spotted Turtle (<i>Clemmys guttata</i>)	T	--	Contact the NH Fish & Game Dept (see below).
Wood Turtle (<i>Glyptemys insculpta</i>)	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.

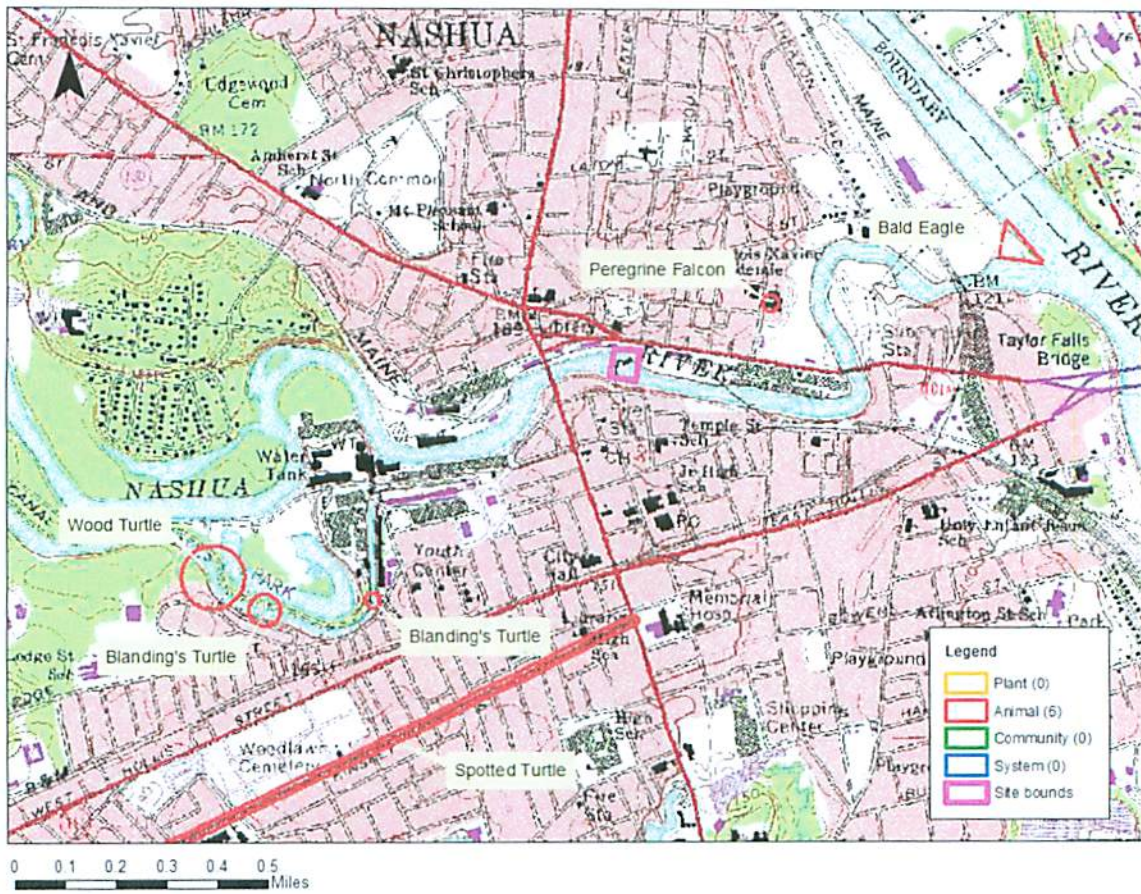
Contact for all animal reviews: Kim Tuttle, NH F&G, (603) 271-6544.

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

NHB15-3242



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:2012: Solitary eagles observed at 2 separate locations on 1/7. Solitary eagles observed at 2 separate locations on 1/31. 2 eagles observed at a single location on 2/7. 1 eagle observed on 2/9. Solitary eagles observed at 3 separate locations on 2/25.2011: 3 eagles observed at a single location and 2 at a separate location on 1/8. 1 eagle observed on 1/9. 1 eagle observed on 1/11. 1 eagle observed on 1/13. 2 eagles observed at a single location on 2/7. 1 eagle observed on 2/9. 1 eagle observed on 2/15. 1 eagle observed on 2/17. 1 eagle observed on 2/22. 1 eagle observed on 3/2. 4 eagles observed at a single location, 2 eagles at 2 separate locations, and a solitary eagle observed on 2/26. 1 eagle observed on 12/13. 1 eagle observed on 12/15. 2010: 7 eagles observed at a single location, 4 eagles at a single location, 2 eagles at a single location, and solitary eagles at 6 locations on 1/9. Solitary eagles at 2 separate locations on 2/28. 1 eagle observed on 12/17. 1 eagle observed on 12/20. 1 eagle observed on 12/22. 1 eagle observed on 12/30.2009: 4 eagles observed at a single location, 2 eagles observed at 2 separate locations, and solitary eagles at 5 separate locations on 1/10. 4 eagles observed at a single location, and 2 eagles located at 4 separate locations on 2/28.2008: 3 eagles observed at a single location, 2 eagles at a single location, and solitary eagles at 2 separate locations on 1/12. 2 eagles observed at a single location and 1 at a separate location on 2/23.2007: 6 eagles observed at a single location, 2 eagles at a single location, and solitary eagles at 2 separate locations on 2/24.2006: 3 eagles observed at 3 separate locations, 2 eagles at 3 separate locations, and solitary eagles at 7 separate locations on 1/7. 2 eagles observed at a single location and 1 at a separate location on 2/18. 6 eagles observed at a single location, 3 at a single location, 2 eagles at 2 separate locations, and a solitary eagle at 1 location on 2/25.2005: Solitary eagles observed at 6 separate locations on 1/8. 1 eagle observed on 1/10. 12 eagles observed at a single location, 5 eagles at a single location, and 3 eagles at 2 separate locations on 2/4. 5 eagles observed at a single location, 3 eagles at a single location, and solitary eagles at 4 separate locations on 2/26.2004: Solitary eagles observed at 6 separate locations on 1/10. 1 eagle observed on 12/20.2003: 4 locations with 2 eagles observed on 1 location with a single eagle on 1/9. 2 eagles at a single location on 1/11. 1 eagle observed on 1/31. 4 eagles at a single location on 2/1. 5 eagles at one location and 2 at another location on 2/2. 9 eagles at a single location on 2/28. 3 eagles at a single location, 2 eagles at 2 separate locations, and 1 eagle at 2 separate locations on 3/1.2002: 2 eagles observed at separate locations on 1/12. Observations of 2 and 3 eagles at 2 separate locations on 12/22.1993: Near Amoskeag Bridge, suspected roosting behind the Youth Center, perching on north side of bridge. Perching on Amoskeag Islands. Some sightings near mouth of Piscataquog River. Also roosting behind Caldor's, NSS Corporation. Confirmed roosting at Sebbins Brook between Rte 3 and the river. Also at Reed's Ferry islands, Pennichuck Brook, all the way south to the Nashua River. 1991: Consistent perching near Amoskeag Bridge, between Queen City bridge and 101/283. Roosting behind Youth Development Center north of Amoskeag Bridge. Eagles perch, sometimes roost in large white pines along the riverbank.

General Area:
General Comments:
Management
Comments:

Location

Survey Site Name: Lower Merrimack River
Managed By: Smiths Ferry Heritage Park

County: Hillsborough

Town(s): Manchester

Size: 116.0 acres

Elevation: 130 feet

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

Directions: Various locations along the banks of the Merrimack River.

Dates documented

First reported: 198?

Last reported: 2012-02-25

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

Detailed Description: 2007: Area 11803: 1 adult observed, about 7" long.
General Area: 2007: Area 11803: Seen sunning itself above surface of water.
General Comments:
Management
Comments:

Location

Survey Site Name: Nashua River
Managed By: Mine Falls Park

County: Hillsborough
Town(s): Nashua
Size: .4 acres
Elevation:

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

Directions: 2007: Area 11803: Canal in Mine Falls Park east of Ledge St. School.

Dates documented

First reported: 2007-07-31
Last reported: 2007-07-31

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: Not ranked
Comments on Rank:

Detailed Description: 2010: Area 12842: 1 adult observed, shell 7-8" long.

General Area: 2010: Area 12842: Stream.

General Comments:

Management

Comments:

Location

Survey Site Name: Nashua River
Managed By: Mine Falls Park

County: Hillsborough

Town(s): Nashua

Size: 1.9 acres

Elevation:

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

Directions: 2010: Area 12842: Mill Pond Canal, Mine Falls Park.

Dates documented

First reported: 2010-05-13

Last reported: 2010-05-13

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

Peregrine Falcon (*Falco peregrinus anatum*)**Legal Status**

Federal: Not listed
State: Listed Threatened

Conservation Status

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

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2014: Nest 1: 2 chicks fledged.

General Area:

General Comments:

Management

Comments:

Location

Survey Site Name: Nashua
Managed By:

County: Hillsborough

Town(s): Nashua

Size: .4 acres

Elevation:

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

Directions: 2014: Nest 1: St. Mary and Archangel Michael Coptic Orthodox Church, Nashua.

Dates documented

First reported: 2014

Last reported: 2014

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

Spotted Turtle (*Clemmys guttata*)**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: Fair quality, condition and/or landscape context ('C' on a scale of A-D).

Comments on Rank:

Detailed Description: 1997: 1 adult found next to the road.

General Area:

General Comments: 1997: observed by Cheryl Walley

Management

Comments:

Location

Survey Site Name: Kinsley Street

Managed By:

County: Hillsborough

Town(s): Nashua

Size: 19.1 acres

Elevation: 190 feet

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

Directions: Kinsley Street in Nashua.

Dates documented

First reported: 1997-07-11

Last reported: 1997-07-11

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.

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: 2007: Area 11802: 1 adult, about 8" long.

General Area: 2007: Area 11802: Seen swimming at surface of water.

General Comments:

Management

Comments:

Location

Survey Site Name: Nashua River Canal

Managed By: Mine Falls Park

County: Hillsborough

Town(s): Nashua

Size: 7.7 acres

Elevation:

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

Directions: 2007: Area 11802: Canal in Mine Falls Park east of Ledge St. School.

Dates documented

First reported: 2007-07-31

Last reported: 2007-07-31

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 Resource Review by the New Hampshire Division of Historical Resources

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 #	1720
Log In Date	2/5/10
Response Date	2/11/10
Sent Date	2/17/10

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 Nashua Hydroelectric Project
 Project Location 3 Nashua Drive, Nashua New Hampshire
 Tax Map & Lot # Map 43 Lot 102
 NH State Plane - Feet Geographic Coordinates: Easting 1038650 Northing 96333 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
 State Agency and Contact (if applicable)
 Permit or Job Reference # FERC No. 7590
 Permit or Job Reference #

APPLICANT INFORMATION

Applicant Name Nashua Hydro Associates
 Street Address 3 Nashua Dr. Phone Number 603-883-6121
 City Nashua State NH Zip 03061 Email nashua@essexhydro.com

CONTACT PERSON TO RECEIVE RESPONSE

Name/Company Essex Hydro Associates as 6P of Nashua 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.

RECEIVED FEB 03 2010

lease
signature

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 "Nashua Hydro 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: *No proposed undertaking - RPR submission as requested by LHH. Note that the Jackson Mills complex is included in the city of Nashua's historical resources survey (1986). Copies of the survey data are in the DHR survey records and available for public inspection and research.*

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. *For future submissions, please provide more detailed maps in accordance with DHR instructions for RPR forms.*

Authorized Signature: *Wanda Ray Wilton DSHPO*

Date: *2/11/2010*

APPENDIX 11

Recreation

APPENDIX 11

Recreation

The Jackson Mills Hydroelectric facility is not obligated by its FERC Exemption to provide recreational access, accommodations or facilities. The facility does however have an agreement with the restaurant located immediately adjacent to the powerhouse whereby they are permitted to hold a limited number of public cocktail receptions on the roof of the powerhouse during the warm summer months.

The Jackson Mills Hydroelectric facility (“the Facility”) is in Compliance with the recreational access, accommodation and facilities conditions in its FERC exemption. There have been no changes in the regulatory status of the project since 1984 nor have there been any agency comments noting deficiencies in the project’s compliance with any recreational conditions contained in the documents related to the FERC exemption and agency review of the project.