

**LOW-IMPACT HYDROPOWER POWER
INSTITUTE RECERTIFICATION APPLICATION**
LIHI CERTIFICATE #123



STEVENS MILLS HYDROELECTRIC PROJECT
(FERC No. 3760 *EXEMPT*)

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LOW-IMPACT HYDROPOWER POWER INSTITUTE RECERTIFICATION APPLICATION

STEVENS MILL HYDROELECTRIC PROJECT (FERC No. 3760)

1.0 FACILITY DESCRIPTION

The Stevens Mill Hydroelectric Project (Project) is located in the city of Franklin, New Hampshire. The Project is located at river mile (RM) 1.4 on the Winnepesaukee River, approximately 1.4 miles upstream from its confluence with the Pemigewasset River (Figure 1-1). The Winnepesaukee River merges with the Pemigewasset River to form the Merrimack River in Franklin, New Hampshire. The Merrimack then flows through southern New Hampshire, northeastern Massachusetts, and into the Atlantic Ocean at Newburyport, Massachusetts.

The Winnepesaukee River, located in the “Lakes Region”¹ of central New Hampshire, flows in a northeast to southwest direction, with a total contributing drainage area of 488 square miles (Figure 1-2). The Winnepesaukee River flows from its headwaters, New Hampshire’s largest lake – Lake Winnepesaukee, and is approximately 10.5 miles long to its confluence with the Pemigewasset River.

The Federal Energy Regulatory Commission (FERC) issued an Order to the Project Granting Exemption from Licensing for a Small Hydroelectric Project of 5 MW or less (FERC No. 3760) on June 14, 1983,² Franklin Power LLC. (Franklin Power or Exemptee), the owner and FERC Exemptee of the Project, is a wholly owned indirect subsidiary of Eagle Creek Renewable Energy, LLC (Eagle Creek).³

The Project has a total installed capacity of 1.936 MW, and consists of two generating units located in separate powerhouses. Unit 1 (236 kW) is located on the north side of the river (river right), along E. Bow Street, immediately across from the Stevens Mill Building No. 1 while Unit

¹ The Lakes Region of New Hampshire is located in the east-central part of the state, south of the White Mountains Region and extending to the Maine border. It is named for the numerous lakes in the region, the largest of which are Lake Winnepesaukee, Winnisquam Lake, Squam Lake, and Newfound Lake.

² <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=11765120>

³ <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=13301023>

3 (1,700 kW) is located approximately 900 feet southwest of the dam (river left) and adjacent to Stevens Mill Building No. 2.⁴ The two units, each located in separate powerhouses, comprise the Stevens Mill facility, the Bow Street powerhouse which accommodates Unit 1 and the River Bend powerhouse which accommodates Unit 3. Unit 1 is connected to the dam via a 150-foot penstock, and Unit 3 via a 740-foot penstock. Unit 1 is a Flygt turbine that was installed in 1985; it is used to maintain conservation flows in the reach of river bypassed by the River Bend station. Project works consist of the above generating units, powerhouses, and penstocks; an 80-foot-long, 22-foot-high concrete gravity dam known as the Stevens Dam; a one-acre reservoir with a normal water surface elevation of 315 ft. NGVD 1929; two transmission lines; and appurtenant works.

The Project was originally constructed in the early 1900s, for the purposes of producing woolen dress goods. The origins of the company can be traced to J.P. Stevens and Co. which was founded in 1813 in North Andover, Massachusetts by Captain Nathaniel Stevens and produced woolen broadcloth. In 1901, Moses T. Stevens incorporated the company, constructed the Stevens Mill Complex and associated hydroelectric facilities in Franklin, NH and changed the company name to M.T. Stevens Company. Franklin Industrial Complex Inc. purchased the Stevens Mill buildings and hydroelectric generating equipment in August of 1982.

The closest upstream dam of the Project, the Clement Dam (LIHI Certificate #117), is located 2.5 miles upstream and is owned by Clement Dam Hydroelectric, LLC., which is also a wholly owned indirect subsidiary of Eagle Creek. The Franklin Falls Hydro Dam (FERC No. 6950 [exempt] and expired LIHI Certificate #83 owned by Franklin Falls Hydro Electric) is located approximately one mile downstream of the Project, and about one half mile from the Winnepesaukee River's confluence with the Pemigewasset River. There are six dam sites (Figure 1-3) along the Winnepesaukee River. Flows on the river are highly regulated by dams, mainly by the furthest upstream Lakeport Dam (FERC No 6440), owned by the New Hampshire

⁴ Unit 2 was taken out of service in 1992. On September 18, 1996, an inspection found that the 225-kW unit was idle due to mechanical difficulties. On April 17, 1997 the Exemptee filed an application to amend the exemption, allowing for the removal of Unit 2 from the Bow Street Powerhouse, and an Order Amending Exemption was issued on August 20, 1998 noting project works now consisted of the 1,700 kW River Bend Powerhouse unit and the 236 kW Bow Street Powerhouse unit for a total installed capacity of 1936 kW.

Department of Environmental Services (NHDES) and located on the outlet of Lake
Winnepesaukee



FIGURE 1-1 GEOGRAPHIC OVERVIEW OF PROJECT AREA

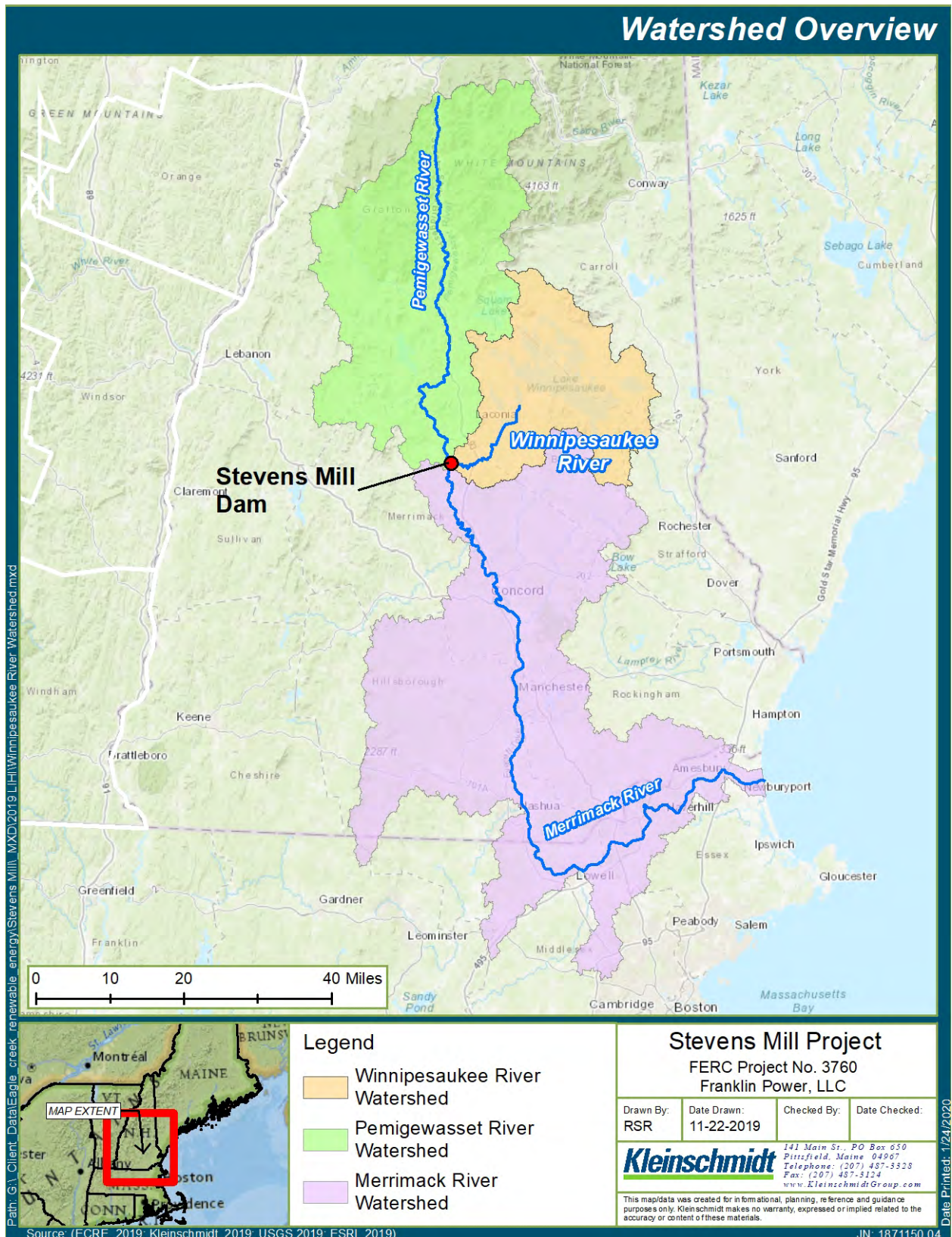


FIGURE 1-2 WINNIPESAUKEE, PEMIGEWASSET AND MERRIMACK RIVER BASINS

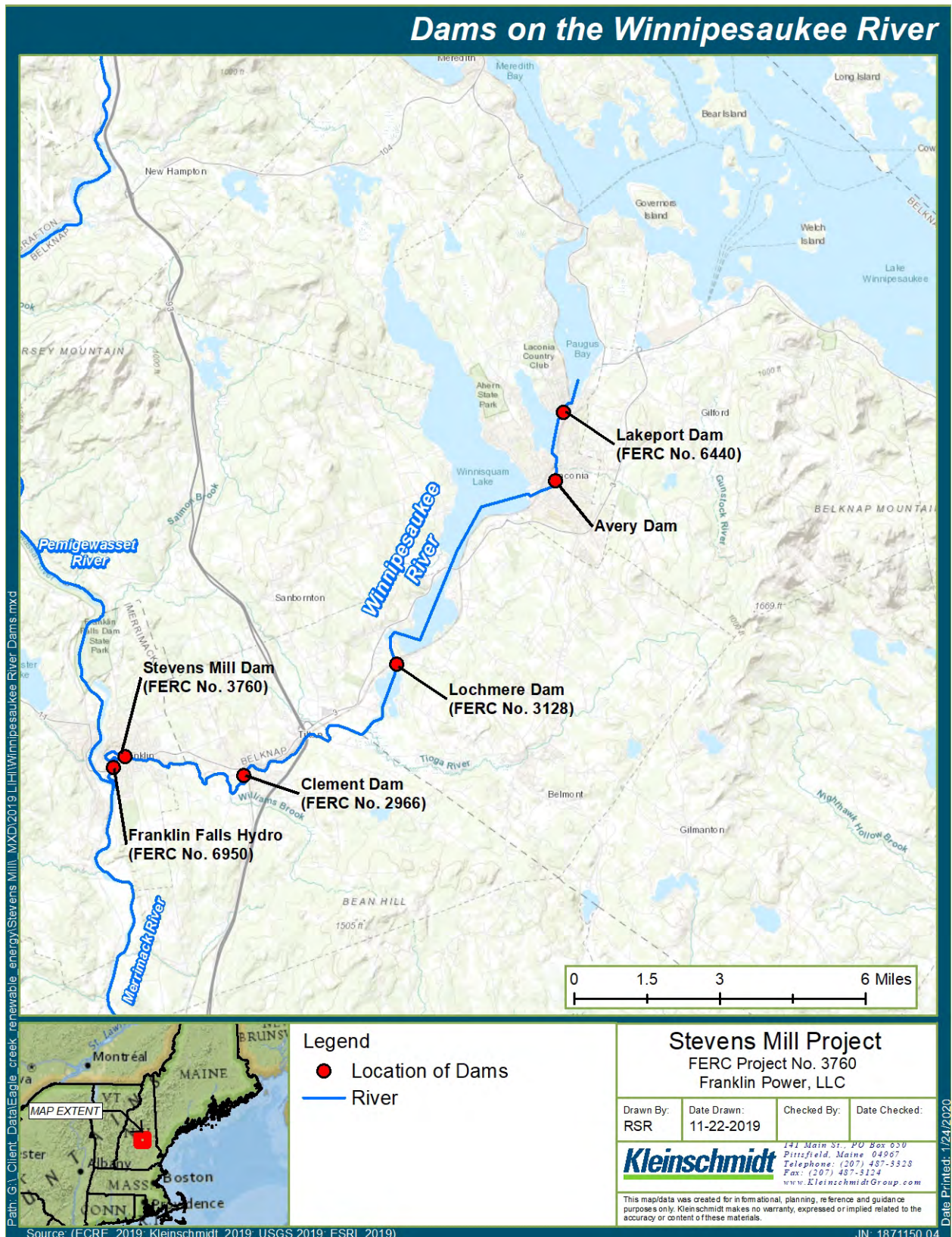


FIGURE 1-3 UPSTREAM AND DOWNSTREAM DAMS ON THE WINNIPESAUKEE RIVER

1.1 FACILITY DESCRIPTION INFORMATION FOR STEVENS MILL HYDROELECTRIC PROJECT (LIHI CERTIFICATE #123)

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
<i>Name of the Facility</i>	FERC Number	Stevens Mills Hydroelectric Project (FERC No. 3760 or Project)
<i>Location</i>	River name (U.S. Geologic Survey [USGS] proper name)	Winnepesaukee River (HUC-0107000202)
	River Mile:	RM ~1.5 on the Winnepesaukee River (as measured from the confluence with the Pemigewasset River)
	River Basin:	Winnepesaukee River Basin (HUC-01070002)
	Nearest town, county, and state:	Franklin, Merrimack County, New Hampshire
	River Mile of Dam:	The Stevens Mill Project dam is located approximately at RM 1.5 The Franklin Falls Hydro Dam is located downstream approximately at RM 0.5. The Clement Dam is approximately at RM 4.
	Geographic latitude:	43°26'45.98"N
	Geographic longitude:	-71°38'40.00"W
<i>Facility Owner</i>	Application Contact Name:	Ms. Susan Giansante Eagle Creek Renewable Energy LLC 65 Madison Ave, Suite 500 Morristown, NJ 07960
	Facility owner (individual and company names):	Mr. Robert Gates, VP Franklin Power, LLC. 973-998-8403 Bob.Gates@eaglecreekre.com
	Representative in LIHI certification	Susan Giansante, Eagle Creek Nuria Holmes, Kleinschmidt Associates Fatima Oswald, Kleinschmidt Associates

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
<i>Regulatory Status</i>	FERC Project Number and Issuance and expiration dates	FERC Project No. P-3760 (On June 14, 1983 the Project became FERC Exempt.)
	FERC license type or special classification (e.g., "qualified conduit")	Exempt
	Water Quality Certificate identifier and issuance date, plus source agency name	N/A
	Hyperlinks to key electronic records on FERC e-library website (e.g., most recent Commission Orders, WQC, ESA documents, etc.)	<p>June 14, 1983 Order Granting Exemption from Licensing of a Small Hydroelectric Project of 5 MW or Less (not available on FERC eLibrary) (Appendix A)</p> <p>August 20, 1998 Order Amending Exemption</p> <p>August 14, 2014 Memorandum between Eagle Creek and U.S. Fish and Wildlife (Appendix D)</p> <p>July 15, 2015 Memorandum between Eagle Creek and U.S. Fish and Wildlife Service Endorsing LIHI Certification</p> <p>June 25, 2019 Interim Extension of MOA between Eagle Creek and U.S. Fish and Wildlife (Appendix D)</p>
<i>Power Plant Characteristics</i>	Date of Initial Operation (past or future for operational applications)	The Project was exempt by FERC in 1983; generation began again in 1985. The facility was originally commissioned in the early 1900s.
	Total name-plate capacity	<p>Bow Street: 0.236 MW</p> <p>River Bend: 1.7 MW</p> <p>Total nameplate capacity: 1.936 MW</p>

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
	Average annual generation (MWh)	<p>Average annual generation: 6,819 MWh (Period of record 2015-2019).</p> <p>Although the period of record used for the average annual generation reported in the last certification is unknown, the 5-year average provided in this application is higher than the average annual generation reported in the previous application.</p>
	Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit	<p>The Project utilizes two generating units located in separate powerhouses. Unit 1 (236 kW) is located on the north side of the river immediately across from the Stevens Mill Building No. 1 while Unit 3 (1,700 kW) is located approximately 900 feet southwest of the dam and adjacent to Stevens Mill Building No. 2. The two units comprise the Stevens Mill facility, the Bow Street Powerhouse and the River Bend Powerhouse, respectively.</p>
	Trashrack Clearance and Spacing (inches) for each trashrack:	<p>¾-inch exclusionary trashracks at Unit 1 2-inch exclusionary trashracks at Unit 3</p>
	Modes of operation (run-of-river, peaking, pulsing, seasonal storage, etc.)	<p>Run-of-river⁵ – No change since last certification.</p>
	Dates and types of major equipment upgrades	<p>On November 28, 1990, the 340-kW unit in the Bow Street Powerhouse was replaced with two generator units with capacity ratings of 236 kW and 225 kW. In addition, the 1,600-kW unit on the River Bend Powerhouse was upgraded to 1,700 kW.</p> <p>On September 18, 1996, an inspection found that the 225-kW Unit 2 was idle due to mechanical difficulties. The idle unit was removed, and an Order Amending Exemption was issued on August 20, 1998 noting project works now consisted of the 1,700 kW River Bend Powerhouse unit and the 236 kW Bow Street Powerhouse unit for a total installed capacity of 1936 kW.</p>

⁵ The LIHI 2nd Edition Handbook characterizes a “run-of-river” facility as one in which the outflow of the facility is within reasonable measurement accuracy (+/- 10%) of the inflow of the facility, measured on an hourly basis.

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
	Dates, purpose, and type of any recent operational changes	In 2016, downstream fish passage facilities were installed under the Memorandum Of Agreement (MOA) with the USFWS. Under the Exemption, the Project is required to maintain a continuous minimum flow of 100 cfs in the bypassed section of the river, or inflow if less. Under the MOA, minimum flow from the downstream fish passage facilities (45 cfs) will be included in the 100 cfs minimum flow for the Project during operation of the downstream fish passage facilities (annually, the downstream migration period for River Herring is from Sept 15 to Nov 15, and for American Eel is from Aug 15 to Nov 15).
	Plans, authorization, and regulatory activities for any facility upgrades	N/A
Characteristics of Dam, Diversion of Conduit	Date of construction	Early 1900s
	Dam height	22-feet-high
	Dam width	112-foot-long concrete gravity dam
	Dam or Diversion Structure Height including separately, the height of any flashboards, inflatable dams, etc.:	The crest elevation is 312.2 ft. NGVD 1929 with a 2.8-foot-high Obermeyer inflatable crest gate providing an overflow elevation of 315 ft.
	Spillway elevation and hydraulic capacity	Spillway elevation: 312.2 feet Hydraulic capacity: 700 cfs
	Tailwater (downstream water surface) elevation	Typical tailwater elevation: 281.5 feet, controlled by the Franklin Falls dam.
	Length and type of all penstocks and water conveyance structures between reservoir and powerhouse	One (1) 150-foot long penstock connecting Stevens Dam to the Bow Street Powerhouse. One (1) 740-foot long penstock connecting Stevens Dam to the River Bend Powerhouse.
	Dates and types of major, generation-related infrastructure improvements	None since last certification.

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
	Designated facility purposes	Generation of Power
	Source Water	Winnepesaukee River - a body of water fed by Lake Winnepesaukee, the largest lake in New Hampshire.
	Receiving Water and Location of Discharge:	The Project discharges water from its powerhouse located approximately 900 feet downstream of the dam.
	Authorized maximum and minimum water surface elevations:	Normal reservoir elevation, top of inflatable crest gate: 315 ft. NGVD 1929 Minimum: N/A (Project is run-of-river)
	Gross storage volume and surface area at full pool:	The Project currently has a pool with a gross storage volume of 7-acre-feet and an area of 1 acre at normal maximum pool elevation of 315 feet MSL.

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
	Describe Requirements Related to Impoundment inflow, outflow, up/down ramping and refill rates:	<p>The Project is operated as a run of river facility, such that outflows from the Project are approximately equal to the sum of the inflows on an instantaneous basis, and water levels above the dam are maintained at the crest of the dam and are not drawn down for the purposes of generating power. The Project is required by Article 2 of the exemption to maintain a continuous minimum flow of 100 cfs in the bypassed section of the river. The Project has a headpond level sensor and is automated to maintain its run of-river operation (fixed headpond elevation at the flashboard system crest) and bypass conservation flows.</p> <p>During drawdown conditions, run of river is provided through a combination of generation and/or operation of the waste gate to maintain the headpond at the target drawdown elevation. Operation of the waste gate is controlled automatically from the programmable logic controller (PLC). The general guideline for drawdowns is a rate of 1' per hour.</p> <p>To refill, Franklin Power adjusts the turbines by throttling back or shutting down the turbines, to minimize outflow, and manually closes the waste gate, but maintains min flow from the waste gate by leaving the waste gate open. As a general guideline, typical refilling rate is passage of 90% inflow and retention of 10% inflow until normal head pond elevation is achieved. Once the normal elevation has been restored, normal operations are resumed.</p>

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
	Upstream dam(s) by name, ownership, FERC number (if applicable), and river mile. Indicate which upstream dams have downstream fish passage.	Major dams located on the Winnepesaukee River upstream of the Project include: <ul style="list-style-type: none"> • Clement Dam (FERC No. 2966) owned by Clement Dam Hydroelectric, LLC and located at RM 4 with downstream fish passage. • Lochmere Dam (FERC No. 3128) owned by NHDES and located at RM 5.5 with downstream fish passage facilities. • Lakeport Dam (FERC No. 6440) owned by NHDES and located at RM 9.5 with downstream eel passage.
	Downstream dam(s) by name, ownership, FERC number (if applicable), and river mile. Indicate which downstream dams have upstream fish passage.	Major dams located on the Winnepesaukee River downstream of the Project include: <ul style="list-style-type: none"> • Franklin Falls Dam (FERC No. 6950; expired LIHI Certificate No. 83) owned by Franklin Falls Hydroelectric Corporation and located at RM 0.5 with no upstream fish passage.
	Operating agreements with upstream or downstream reservoirs that affect water availability, if any, and facility operation	N/A
	Area inside FERC project boundary, where appropriate	Approx. 10 acres
Hydrologic Setting	Average annual flow at the dam	<p>The mean annual flow at the project is 737 cfs.</p> <p>The average annual flow is measured at the upstream gage at the USGS 01081000 WINNIPESAUKEE RIVER AT TILTON, NH⁶, located about 3 miles upstream of the Project.</p>

⁶ This represents the average annual flow at this gage prorated based on drainage area to the Stevens Mill Project.

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION																																																								
	Average monthly flows (cfs)	Average daily flows by month at the Project (Data from USGS Gage 01081000) in cfs:																																																								
		<table><tr><th>Month</th><th>Min. Daily</th><th>Mean Daily</th><th>Max Daily</th></tr><tr><td>January</td><td>65</td><td>896</td><td>2,590</td></tr><tr><td>February</td><td>73</td><td>903</td><td>2,550</td></tr><tr><td>March</td><td>105</td><td>955</td><td>3,510</td></tr><tr><td>April</td><td>206</td><td>1172</td><td>3,330</td></tr><tr><td>May</td><td>67</td><td>988</td><td>4,480</td></tr><tr><td>June</td><td>107</td><td>749</td><td>4,290</td></tr><tr><td>July</td><td>61</td><td>492</td><td>3,320</td></tr><tr><td>August</td><td>48</td><td>433</td><td>2,380</td></tr><tr><td>September</td><td>70</td><td>428</td><td>3,230</td></tr><tr><td>October</td><td>49</td><td>444</td><td>3,870</td></tr><tr><td>November</td><td>48</td><td>601</td><td>2,940</td></tr><tr><td>December</td><td>60</td><td>785</td><td>3,400</td></tr><tr><td>Average:</td><td>80</td><td>737</td><td>3,324</td></tr></table>	Month	Min. Daily	Mean Daily	Max Daily	January	65	896	2,590	February	73	903	2,550	March	105	955	3,510	April	206	1172	3,330	May	67	988	4,480	June	107	749	4,290	July	61	492	3,320	August	48	433	2,380	September	70	428	3,230	October	49	444	3,870	November	48	601	2,940	December	60	785	3,400	Average:	80	737	3,324
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*Time period for data: 01-01-1937 to 03-31-2019.																																																										
Location and name of relevant stream gauging stations above and below the facility	Relevant stream gauging stations above the facility: USGS 01081000 WINNIPESAUKEE RIVER AT TILTON, NH																																																									
Watershed area at the dam	~488 square miles																																																									
Designated Zones of Effect	Number of zones of effect	3																																																								
	Upstream and downstream locations by river miles (estimated from confluence with Pemigewasset River and presented starting with the most upstream limit of the impoundment and running downstream)	Impoundment: RM 1.4 to RM 1.5 Bypass Reach: RM 1.5 to RM 0.75 Tailrace: RM 0.75 to RM 0.65																																																								

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
	Type of waterbody (river, impoundment, by-passed reach, etc.)	The waters located within the Impoundment ZOE are classified as Riverine by the USFWS National Wetlands Inventory (Classification code R2UDH ⁷) (USFWS 2016).
	Delimiting structures	<p>Zone of Effect #1: Impoundment</p> <ul style="list-style-type: none"> The Project includes a 1-acre, 0.10-mile-long (525 feet) impoundment with an average depth of 9 feet and a maximum gross storage capacity of 7 acre-feet with a pool elevation maintained at approximately 315 ft. NGVD 1929. <p>Zone of Effect #2: Bypass Reach</p> <ul style="list-style-type: none"> The Project's approximate 0.75-mile-long bypass reach extends from the Project's Stevens Mill Dam to the Project's second powerhouse at the River Bend power station. <p>Zone of Effect #3: Tailrace</p> <ul style="list-style-type: none"> The Project's tailrace extends from the Project's River Bend Powerhouse downstream approximately 500 feet.
	Watershed Management Plan	<p>Upper Merrimack Management and Implementation Plan (2007)⁸</p> <p>A Plan for the Restoration of American Shad Merrimack River Watershed 2010</p> <p>Winnepesaukee Gateway</p> <p>The Lake Winnepesaukee Watershed Management Plan (2010)⁹</p>
Additional Contact Information:	Names, addresses, phone numbers, and e-mail for local state and federal resource agencies	See Section 4 for the Project Contacts Form.

⁷ R2UBH = Riverine (R), Lower Perennial (2), Unconsolidated Bottom (UB), Permanently Flooded (H)

⁸ Pertaining to the NHDES Designated Rivers Program⁸, the Winnepesaukee River is part of the Upper Merrimack River Designation: <https://www.des.nh.gov/organization/divisions/water/wmb/rivers/designriv.htm>.

⁹ Regional partners are working to create a Lake Winnepesaukee Watershed Management Plan: <https://www.lakesrpc.org/LWWMP/index.html>.

INFORMATION TYPE	VARIABLE DESCRIPTION	FACILITY DESCRIPTION
	Names, addresses, phone numbers, and e-mail for local non-governmental stakeholders	See Section 4 for the Project Contacts Form.
<i>Photographs of the Facility</i>	Photographs of key features of the facility and each of the designated zones of effect	<p>See Appendix B</p> <p>Please see Error! Reference source not found. for key Project features and Figure 2-1 for Project Zones of Effect. See Error! Reference source not found. for photographs of key features of the facility.</p>
	Maps, aerial photos, and/or plan view diagrams of facility area and river basin	

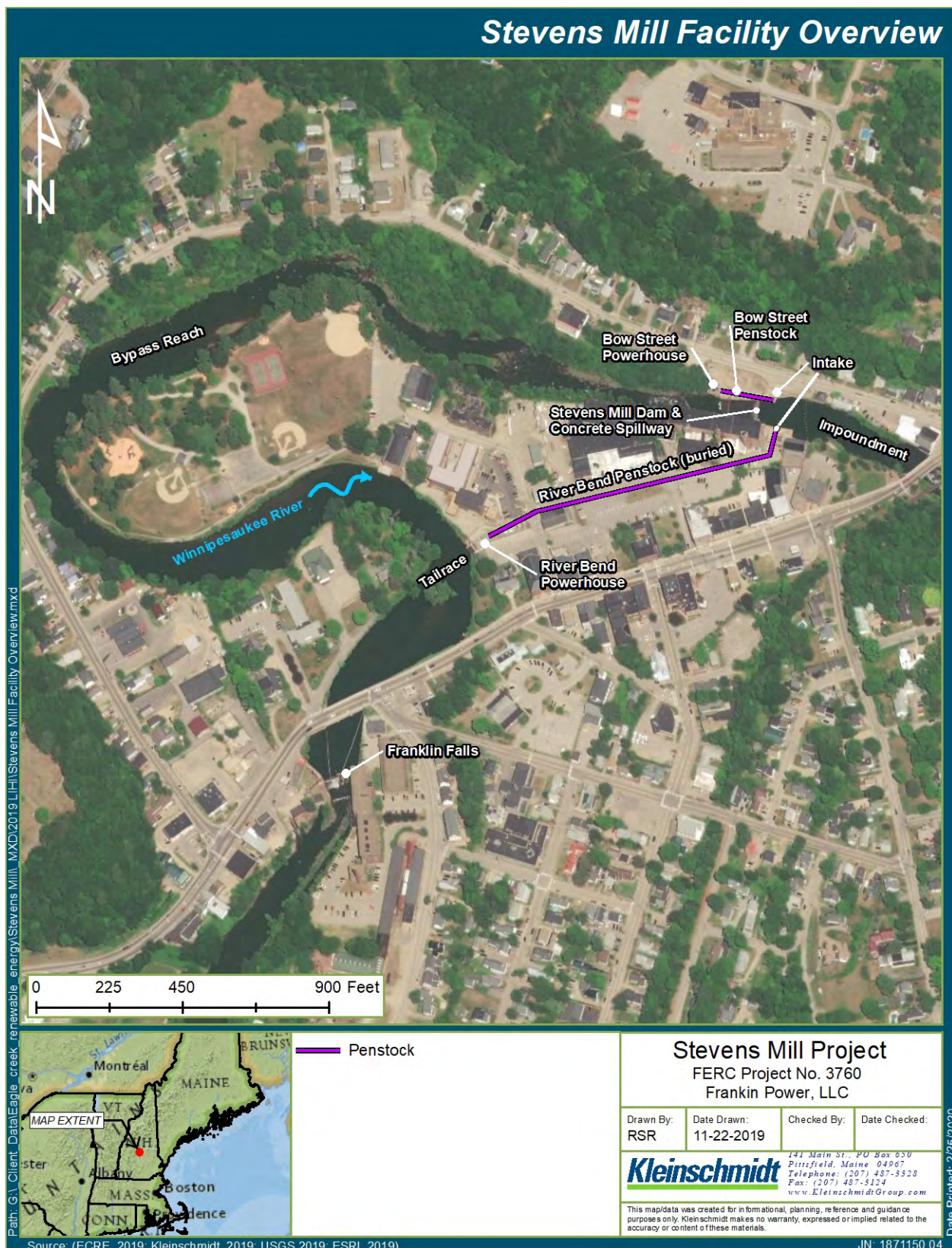


FIGURE 1-4 PROJECT FACILITY DETAILS

2.0 STANDARDS MATRICES

2.1 ZONE OF EFFECT: IMPOUNDMENT ZOE

CRITERION		ALTERNATIVE STANDARDS				
		1	2	3	4	PLUS
A	Ecological Flow Regimes	X				
B	Water Quality		X			
C	Upstream Fish Passage	X				
D	Downstream Fish Passage		X			
E	Watershed and Shoreline Protection	X				
F	Threatened and Endangered Species Protection		X			
G	Cultural and Historic Resources Protection	X				
H	Recreational Resources	X				

2.2 ZONE OF EFFECT: BYPASS REACH ZOE

CRITERION		ALTERNATIVE STANDARDS				
		1	2	3	4	Plus
A	Ecological Flow Regimes		X			
B	Water Quality		X			
C	Upstream Fish Passage		X			
D	Downstream Fish Passage		X			
E	Watershed and Shoreline Protection	X				
F	Threatened and Endangered Species Protection		X			
G	Cultural and Historic Resources Protection	X				
H	Recreational Resources	X				

2.3 ZONE OF EFFECT: TAILRACE ZOE

CRITERION		ALTERNATIVE STANDARDS				
		1	2	3	4	Plus
A	Ecological Flow Regimes		X			
B	Water Quality		X			
C	Upstream Fish Passage		X			
D	Downstream Fish Passage		X			
E	Watershed and Shoreline Protection	X				
F	Threatened and Endangered Species Protection		X			
G	Cultural and Historic Resources Protection	X				
H	Recreational Resources	X				

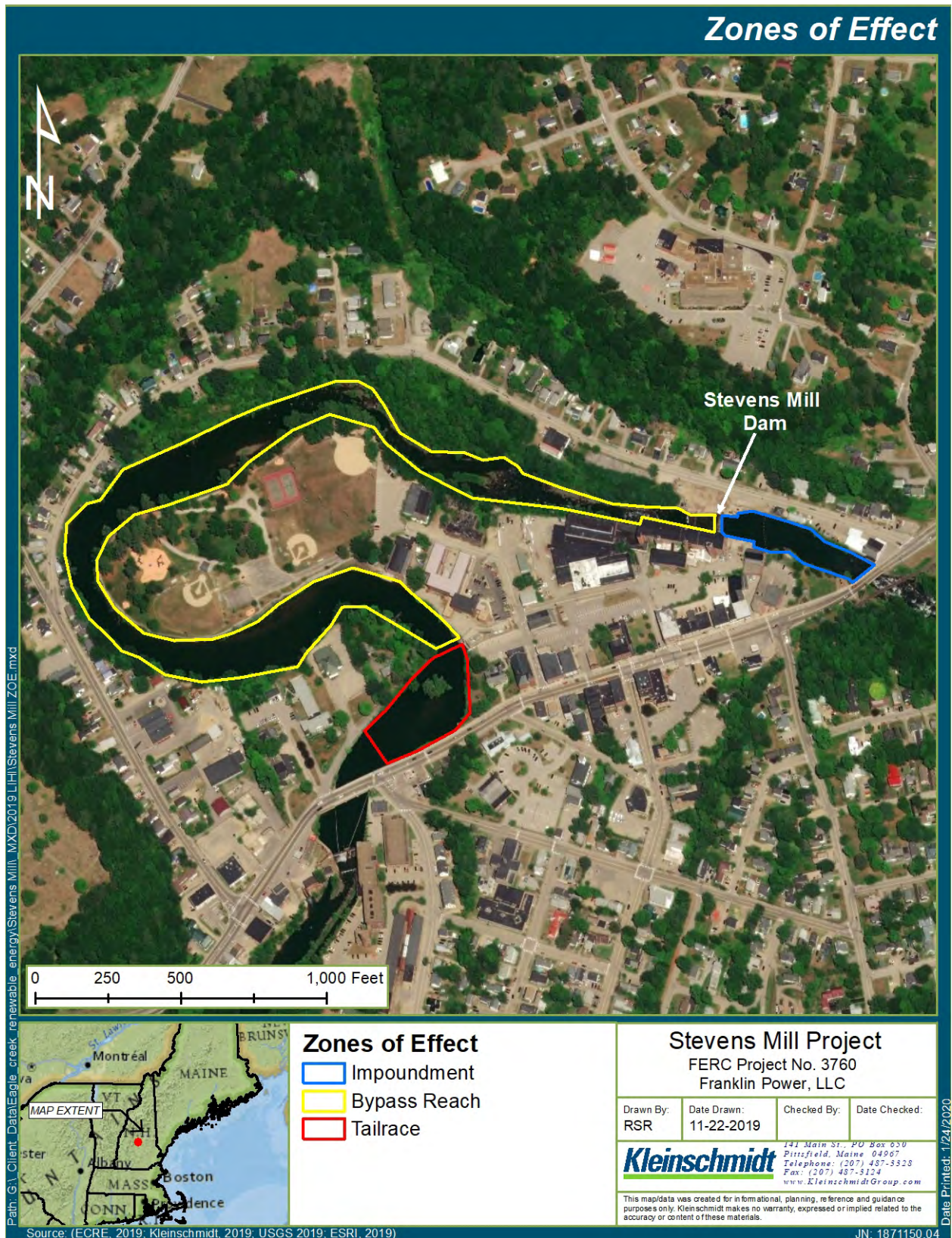


FIGURE 2-1 STEVENS MILL ZONES OF EFFECT (ZOE)

3.0 SUPPORTING INFORMATION

3.1 ECOLOGICAL FLOW STANDARDS

3.1.1 IMPOUNDMENT

CRITERION	STANDARD	INSTRUCTIONS
A	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none">• Confirm the location of the powerhouse relative to dam/diversion structures and demonstrate that there are no bypassed reaches at the facility.• For run-of-river facilities, provide details on operations and demonstrate that flows, water levels, and operation are monitored to ensure such an operational mode is maintained. If deviations from required flows have occurred, discuss them and the measures taken to minimize reoccurrence.• In a conduit facility, identify the source waters, location of discharge points, and receiving waters for the conduit system within which the hydropower facility is located. This standard cannot be used for conduits that discharge to a natural waterbody.• For impoundment zones only, explain water management (e.g., fluctuations, ramping, refill rates) and how fish and wildlife habitat within the zone is evaluated and managed. NOTE: this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All impoundment zones can apply Criterion A-1 to pass this criterion.

On June 14, 1983, the Federal Energy Regulatory Commission (FERC) issued an exemption from licensing of a small hydroelectric project 5 megawatts or less (Project No. 3760) to the Project (Appendix A). The Project License was amended on April 16, 1991¹⁰ to change the exemption to reflect the change in installed capacity from 1,940 kW to 2,161 kW due to a turbine generator purchase process for the new unit, and rehabilitation work needed for the existing units. The exemption was subsequently amended again on August 20, 1998¹¹ to reflect the removal of the circa 1907 250 kW generating unit located in the Bow Street powerhouse; the unit had been idle since 1992 due to mechanical difficulties. The generating capacity of the project was reduced from the authorized 2,161 kW to 1,936 kW.

In accordance with its FERC Exemption the Stevens Mill Project is operated as a run of river facility, such that outflows from the Project are approximately equal to the sum of the inflows on an instantaneous basis, and water levels above the dam are maintained at the crest of the dam and are not drawn down for the purposes of generating power. The Project is required by Article 2 of

¹⁰ <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=3456385>

¹¹ <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10812987>

the exemption to maintain a continuous minimum flow of 100 cfs in the bypassed section of the river. The Project has a headpond level sensor and is automated to maintain its run of-river operation (fixed headpond elevation at the flashboard system crest) and bypass conservation flows.

On April 9, 2013, the Commission issued a letter acknowledging the receipt of the annual compliance report and determined that there is no license requirement for these annual statements to be filed with the Commission and the practice can be discontinued. However, compliance reports continued to be filed on behalf of the Project for multiple years while awaiting confirmation of the request to discontinue reporting. On March 18, 2016 a letter from the Commission¹² substantiated “Confirmation of No Requirement to File Annual Minimum Flow Compliance Report” for the Project. The compliance verification submittals have since been discontinued (2015 was the last year filed),¹³ however, the Project still adheres to the requirement to file deviation notices, although none have occurred since the last LIHI certification.

On August 14, 2014, Eagle Creek entered into a voluntary Memorandum of Agreement (MOA) (Appendix D) with the USFWS to establish a plan and schedule for addressing fish passage and minimum flow issues. Appendix A of the MOA included a description of the proposed enhancements. The MOA was intended as a critical step to achieving Low Impact Hydropower Institute (LIHI) Certification during the last Project application in 2015, and required the applicant to take specific steps to support measures by the USFWS to protect aquatic life. Specifically, for this facility, the Licensee was to:

- 1) Make operational changes to allow downstream passage of river herring and make permanent modifications to the facility after consultation with USFWS by September 1, 2015;
- 2) Provide measures for downstream eel passage within 48 months as requested by NHDWG and/or USFWS; and
- 3) Perform a flow review for habitat and the bypass reach by December 1, 2014. This last deadline was shifted to summer of 2015 to allow for the study during low flow conditions.

Appendix A continued to be updated as the Parties worked cooperatively to finalize and implement plans for downstream passage for River Herring. In February 2017, a Revised and Approved Appendix A for the MOA between Eagle Creek and the USFWS was instated to reflect updated status at the projects affected by the MOA. Further, an interim extension of the MOA has been executed by both Parties extending the term of the MOA through March 31, 2020 (Appendix D), to allow the Parties to work together to develop next steps consistent with resource agency basin goals.

Under this MOA, Eagle Creek is required, for the protection and enhancement of fish and aquatic habitat, to provide continuous minimum flows in the bypass reaches of the Project (this was a generic MOA condition relevant to all Eagle Creek’s hydro projects

¹² <https://elibrary.ferc.gov/IDMWS/common/opennat.asp?fileID=14173631>

¹³ See Appendix G for the minimum flow compliance letters filed with the FERC during this LIHI certification period (2015 and 2016).

affected by the MOA). The February 2017 Revised and Approved MOA between Eagle Creek and the USFWS stated that minimum flows were reviewed and found to be adequate for the Project. In addition, in August 2016, downstream passage facilities were constructed, and installation was completed.

- On November 7, 2016, comments were received from John Warner, USFWS, regarding the adequacy of fish passage at the Project. His comments concluded that Stevens Mill completed its downstream passage measures as agreed to and that the bypass flow is adequate.

Under the terms of the MOA, Eagle Creek was to prepare and file for approval by the USFWS, an Operations and Flow Monitoring Plan for monitoring the run-of-river operation. The Operations and Flow Monitoring Plan was developed based upon a mutually agreeable schedule that allowed downstream fish passage facilities at certain New Hampshire Projects to first be placed into service. The Operations and Flow Monitoring Plan was prepared and submitted to USFWS and approved in 2017. It was then updated in December 2018. Eagle Creek recently received comments from agencies on the Plan in September 2019. The Operations and Flow Monitoring Plan will be updated based on further discussion with the agencies as Eagle Creek works with the USFWS and NHFG to extend this MOA.

The Exemptee has conducted site visits and been in consultation with state and federal agencies including USFWS and NHFG. The Stevens Mill Project is in compliance with the conditions of the FERC license, and operating plans/agreements, as well as resource agency recommendations regarding flow conditions for fish and wildlife protection, mitigation and enhancement at the Project.

3.1.2 BYPASS REACH AND TAILRACE

CRITERION	STANDARD	INSTRUCTIONS
A	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> • Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent). • Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement. • Explain how the recommendation relates to agency management goals and objectives for fish and wildlife. • Explain how the recommendation provides fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations).

On June 14, 1983, the Federal Energy Regulatory Commission (FERC) issued an exemption from licensing of a small hydroelectric project 5 megawatts or less (Project No. 3760) to the Project (Appendix A). The Project License was amended on April 16, 1991¹⁴ to change the exemption to reflect the change in installed capacity from 1,940 kW to 2,161 kW due to a turbine generator purchase process for the new unit, and rehabilitation work needed for the existing units. The exemption was subsequently amended again on August 20, 1998¹⁵ to reflect the removal of the circa 1907 250 kW generating unit located in the Bow Street powerhouse; the unit had been idle since 1992 due to mechanical difficulties. The generating capacity of the project was reduced from the authorized 2,161 kW to 1,936 kW.

In accordance with its FERC Exemption the Stevens Mill Project is operated as a run of river facility, such that outflows from the Project are approximately equal to the sum of the inflows on an instantaneous basis, and water levels above the dam are maintained at the crest of the dam¹⁶ and are not drawn down for the purposes of generating power. The Project is required by Article 2 of the exemption to maintain a continuous minimum flow of 100 cfs in the bypassed section of the river. The Project has a headpond level sensor and is automated to maintain its run-of-river operation (fixed headpond elevation at the flashboard system crest) and bypass conservation flows.

¹⁴ <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=3456385>

¹⁵ <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10812987>

¹⁶ The crest elevation is 312.2 ft. with a 2.8-foot-high Obermeyer inflatable crest gate providing an overflow elevation of 315 ft..

On April 9, 2013, the Commission issued a letter acknowledging the receipt of the annual compliance report and determined that there is no license requirement for these annual statements to be filed with the Commission and the practice can be discontinued. However, compliance reports continued to be filed on behalf of the Project for multiple years while awaiting confirmation of the request to discontinue reporting. On March 18, 2016 a letter from the Commission¹⁷ substantiated “Confirmation of No Requirement to File Annual Minimum Flow Compliance Report” for the Project. The compliance verification submittals have since been discontinued (2015 was the last year filed),¹⁸ however, the Project still adheres to the requirement to file deviation notices, although none have occurred since the last LIHI certification.

On August 14, 2014, Eagle Creek entered into a voluntary Memorandum of Agreement (MOA) (Appendix D) with the USFWS to establish a plan and schedule for addressing fish passage and minimum flow issues. The MOA was intended as a critical step to achieving Low Impact Hydropower Institute (LIHI) Certification during the last Project application in 2015, and required the applicant to take specific steps to support measures by the USFWS to protect aquatic life. Specifically, for the Stevens Mill Project, the Exemptee was to:

- 1) Make operational changes to allow downstream passage of river herring and make permanent modifications to the facility after consultation with USFWS by September 1, 2015;
- 2) Provide measures for downstream eel passage within 48 months as requested by NHDWG and/or USFWS; and
- 3) Perform a flow review for habitat and the bypass reach by December 1, 2014. This last deadline was shifted to summer of 2015 to allow for the study during low flow conditions.

In February 2017, a Revised and Approved Appendix A of the MOA between Eagle Creek and the USFWS was instated to reflect updated status at the projects affected by the MOA. Further, an interim extension of the MOA has been executed by both parties extending the term of the MOA through March 31, 2020 (Appendix D), as an interim measure, to allow the Parties to continue discussions for extending the term of the MOA.

Under this MOA, Eagle Creek is required, for the protection and enhancement of fish and aquatic habitat, to provide continuous minimum flows in the bypass reaches of the Project (this was a generic MOA condition relevant to all Eagle Creek’s hydro projects affected by the MOA). The February 2017 Revised and Approved MOA between Eagle Creek and the USFWS stated that minimum flows were reviewed and found to be adequate for the Project. In addition, in August 2016, downstream passage facilities were constructed, and installation was completed.

- On November 7, 2016, comments were received from John Warner, USFWS, regarding the adequacy of fish passage at the Project. His comments concluded that Stevens Mill completed its downstream passage measures as agreed to and that the bypass flow is adequate (see Appendix C).

¹⁷ <https://elibrary.ferc.gov/IDMWS/common/opennat.asp?fileID=14173631>

¹⁸ See Appendix G for the minimum flow compliance letters filed with the FERC during this LIHI certification period (2015 and 2016).

- Under the terms of the MOA, Eagle Creek was to prepare and file for approval by the USFWS, an Operations and Flow Monitoring Plan for monitoring the run-of-river operation and bypass flows. The Operations and Flow Monitoring Plan and the Fishway Operations and Maintenance Plan, the second plan required by the MOA (collectively the Plans), were developed based upon a mutually agreeable schedule that allowed downstream fish passage facilities at certain New Hampshire Projects to first be placed into service. Both Plans were prepared and submitted to USFWS and approved in 2017. The Plans were updated in December 2018. Eagle Creek received comments from agencies on the Operations and Flow Monitoring Plan in September 2019. The Operations and Flow Monitoring Plan will be updated based on further discussion with the agencies as Eagle Creek works with the USFWS and NHFG to extend this MOA. Further, as part of these discussions it has been agreed that both Plans will be combined into a single plan.

The Exemptee has conducted site visits and been in consultation with state and federal agencies including USFWS and NHFG. The Stevens Mill Project is in compliance with the conditions of the FERC license and operating plans/agreements. The Project is in compliance with all resource agency recommendations regarding flow conditions for fish and wildlife protection, mitigation and enhancement at the Project.

3.2 WATER QUALITY STANDARDS

3.2.1 ALL ZOES

CRITERION	STANDARD	INSTRUCTIONS
B	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none">• If facility is located on a Water Quality Limited river reach, provide an agency letter stating that the facility is not a cause of such limitation.• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.• Describe all compliance activities related to the water quality related agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations.

The Project is FERC exempt and therefore a Water Quality Certificate was not issued. The New Hampshire Department of Environmental Services (NHDES) is responsible for water quality in the Project region (see Appendix E).

The Upper Merrimack River in Franklin, which extends out to the Winnepesaukee River in the Project area is considered a Class B River by NHDES. Class B Rivers are considered acceptable for fishing, swimming, and other recreational purposes, and for use as water supplies after adequate treatment has been applied.

Regarding federal and state water quality standards, the Winnepesaukee River in the Project vicinity is not listed as impaired or in need of a Total Maximum Daily Load (TMDL) study in the NHDES 2018 Surface Water Quality Assessment Program “303(d) list.”¹⁹ The 303(d) list describes the quality of surface waters and an analysis of the extent to which all such waters provide for the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water. Further the list includes surface waters that are impaired or threatened by pollutant(s), not meeting water quality standards, and/or in need of a TMDL Study.

When LIHI granted certification of the Project in 2015, LIHI did so subject to specific provisions, requiring the facility owner to complete further water quality sampling and provide a letter from NHDES documenting review and conclusions. A November 19, 2018 letter to LIHI (Appendix E), pertaining to the NHDES's assessment of the water quality status of the Winnepesaukee River in the vicinity of the Project concluded that “based on the current operation of the facility, current water quality standards, water quality data collected in 2013 and 2016 and

¹⁹ <https://www.des.nh.gov/organization/divisions/water/wmb/swqa/index.htm>

information provided to NHDES by the Exemptee, the Winnepesaukee River immediately upstream and downstream of the Stevens Mill Hydroelectric Project is meeting water quality standards and thresholds for dissolved oxygen, total phosphorus and chlorophyll-a under the conditions during which the data was collected.”

According to the NHDES Designated Rivers Program,²⁰ the Winnepesaukee River, in Franklin, New Hampshire is part of the Upper Merrimack River Designation and is guided by the Upper Merrimack Management and Implementation Plan.²¹ The Upper Merrimack River begins at the confluence of the Pemigewasset and Winnepesaukee Rivers in Franklin, and flows for approximately 30 miles through the communities of Franklin, Northfield, Boscawen, Canterbury and Concord, to Garvins Falls in the town of Bow. The NHDES Designated Rivers Program river segments are recognized for their outstanding natural and cultural resources.

Lake Winnepesaukee, which feeds the Winnepesaukee River, is the largest lake in New Hampshire, though the Lake and Watershed lack a comprehensive management plan. The Lake Winnepesaukee Watershed Association (LWWA) coordinated a group of state partners and began to create a phased approach to a comprehensive plan²² and created the Lake Winnepesaukee Watershed Management Plan of 2010,²³ of which the Project is a part.

NHDES’s Watershed-based Plans²⁴ recognizes the Winnepesaukee Gateway²⁵: Meredith, Paugus, and Sanders Bay, which includes the Winnepesaukee River and Franklin, and has an over-arching goal in developing a management plan for Lake Winnepesaukee – to protect the water quality health of the Lake Winnepesaukee Watershed for the long term. Among other things, the Winnepesaukee Gateway assesses water quality issues in the watershed, which include phosphorus levels in the lake that show an increasing trend, invasive plants such as milfoil that inhibit recreational use of the water, and fish and wildlife species that are threatened by impacts from human activities such as habitat fragmentation, recreational activities, and pollution.

For decades preceding the Clean Water Act (CWA), discharges of untreated and poorly treated wastewater into Central New Hampshire Lakes and Rivers resulted in “pea soup” conditions and fish kills in Lake Winnepesaukee, Lake Winnisquam, and the Tioga and Winnepesaukee Rivers. The Winnepesaukee River Basin Program (WRBP) created in 1972 under the provisions of RSA 485-A:45-54, is the state-owned sewer system, serving portions of the New Hampshire Lakes Region communities of Center Harbor, Moultonboro, Gilford, Meredith, Laconia, Belmont, Sanbornton, Northfield, Tilton, and Franklin.²⁶ The WRBP authorized the state, through the NHDES, to acquire, plan, construct and operate public sewage disposal facilities within the Winnepesaukee River Basin communities. The WRBP includes a wastewater treatment facility in Franklin, approximately 2.5 miles south of the Project, operated by NHDES employees to control water pollution in the Lakes Region as part of CWA efforts to construct wastewater infrastructure and eliminate discharges. The WRBP is a success story, preserving water quality

²⁰ <https://www.des.nh.gov/organization/divisions/water/wmb/rivers/designriv.htm>

²¹ <https://www.des.nh.gov/organization/divisions/water/wmb/rivers/documents/mer-up-plan.pdf>

²² <https://www.lakesrpc.org/LWWMP/index.html>

²³ https://www.lakesrpc.org/LWWMP/files/LWWMP_update_ppt.pdf

²⁴ https://www.des.nh.gov/organization/divisions/water/wmb/was/watershed_based_plans.htm

²⁵ <http://winnepesaukeegateway.org/>

²⁶ <https://www.des.nh.gov/organization/divisions/water/wrbb/index.htm>

in the Lakes and Rivers of Central NH, supporting tourism and recreational opportunities, enhancing economic and residential development, and helping create a prosperous and thriving environment with sustainable water resources.

There have been no deficiencies noted by any state or federal agency in regard to the Project's impact on the water quality of the Winnepesaukee River since the Stevens Mill Project began operation. The Stevens Mill Project is in compliance with the conditions of the FERC license and operating plans/agreements. For further information, please see Appendix E, NHDES water quality correspondence for the Project.

3.3 UPSTREAM FISH PASSAGE STANDARDS

3.3.1 IMPOUNDMENT

CRITERION	STANDARD	INSTRUCTIONS
C	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none">• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone. Typically, impoundment zones will qualify for this standard since once above a dam and in an impoundment, there is no facility barrier to further upstream movement.• Document available fish distribution data and the lack of migratory fish species in the vicinity.• If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.

On June 14, 1983, the Commission issued an Order Granting Exemption from Licensing to the Stevens Mill Project. Standard Article 2 of the Exemption Order requires compliance with the terms and conditions specified by Federal and State Fish and Wildlife agencies.

Eagle Creek's August 14, 2014 voluntary MOA with USFWS (updated in 2019) established a plan and schedule for addressing fish passage (for River herring and American Eel) and minimum flow issues. No upstream passage has been required at the Project to date. In addition, there is no upstream fish passage at the FERC exempt Franklin Falls Project (owned by Franklin Falls Hydro Electric), the next dam downstream of Stevens Mill Project, and the last dam before the Winnepesaukee River's confluence with the Pemigewasset River to form the Merrimack River. Upstream passage at the Franklin Falls Project will be contingent on fish passage on the mainstem dams on the Pemigewasset River. It is estimated there could be passage on the Pemigewasset River in approximately 3-5 years. The next dam upstream of the Project is approximately 2.5 river miles upstream, the Clement Dam, which also has no required upstream passage.

The Stevens Mill Project is in compliance with the requirements of the MOA and the Exemptee has not been asked by any agency to install upstream passage facilities at the site. Upstream passage will be reviewed again in 2020 per the terms of the MOA.

During the summer of 2008 and 2010, New Hampshire Fish and Game conducted electrofishing surveys in the Winnepesaukee River drainage. A total of 24 different fish species were captured at 93 locations. Wild brook trout were the most frequently encountered species being found at 63% of the survey sites. Blacknose dace were found to be the most abundant species representing 42% of the total fish captured while wild brook trout were second most abundant (33% of total fish caught). Other species captured within the Winnepesaukee River drainage include: brown bullhead (horn pout), bluegill, blacknose dace, bridled shiner, burbot (cusk), hatchery brown trout, creek chub, creek chubsucker, common shiner, common sunfish (pumpkinseed), common white

sucker, wild brook trout, hatchery brook trout, eastern chain pickerel, fallfish, golden shiner, lake chub, landlocked salmon, largemouth bass, longnose dace, rainbow trout, slimy sculpin, yellow bullhead, and yellow perch.²⁷

Migratory species historically present in the Winnepesaukee River include, alewife, American Shad, blueback herring, Atlantic salmon, and American eel. According to *Strategic Plan & Status Review, Anadromous Fish Restoration Plan, Merrimack River*²⁸ (Technical Committee for Anadromous Fishery Management of the Merrimack River Basin and Advisors to the Technical Committee, October 16, 1997), anadromous fish were well distributed in the upper Merrimack River basin historically. The Pemigewasset River basin served as the principal source of salmon production, while shad and river herring (alewives and blueback herring) more likely utilized the Winnepesaukee, the Merrimack River mainstem and other Merrimack tributaries. In 1847, the Essex Dam in Lawrence, Massachusetts was constructed at River Mile 30 (approximately 60 miles south of the Project), blocking anadromous fish runs to critical upstream habitat. Atlantic salmon became extirpated, while shad and river herring maintained diminished populations by using available habitat downstream of Essex Dam. There are no formal, final restoration plans or management plans for river herring or American eel in the Winnepesaukee River. There is a “Plan for the Restoration of American Shad for the Merrimack River Watershed,” however, there is no mention of the Winnepesaukee in this plan.²⁹ Atlantic salmon occurred historically in the Merrimack River watershed; however, the USFWS terminated Atlantic salmon restoration efforts for the Merrimack River in 2013 due to a lack of funds and a change in management direction.

According to the updated 2015 New Hampshire Wildlife Action Plan,³⁰:

- “The ultimate success of river herring restoration programs in the New Hampshire portion of the Merrimack River watershed will depend on improvements in fish passage, which will allow river herring to reach as much suitable spawning habitat as possible. Currently, very few blueback herring have been documented passing upstream of the Essex Dam in Lawrence despite anecdotal observations of blueback herring below the dam. If blueback herring were able to pass upstream of the two dams in Massachusetts, they would have access to over 50 river km of potential spawning habitat in New Hampshire. This does not include potential habitat in the tributaries. There is tremendous potential for blueback herring restoration in the Merrimack River watershed, but this potential cannot be reached until fisheries managers can identify the cause (or causes) of poor blueback herring passage at the Essex Dam.”

In addition, the Action Plan addresses American Eel:

- “Although American eels are relatively common in the coastal rivers of New Hampshire, it is understood that they inhabit just a fraction of their historical range in the state. There is a significant drop in eel abundance upstream of the first major dams on the Merrimack and Connecticut Rivers (Sprankle 2002)...The historical range of American eels within the Merrimack River watershed indicates presence as far upstream as Merrymeeting, Winnepesaukee, and Winnisquam Lakes (Bailey 1938)...Recent survey data indicates

²⁷ <https://wildlife.state.nh.us/fishing/documents/wild-brook-trout-winni-poster.pdf>

²⁸ <https://www3.epa.gov/region1/npdes/merrimackstation/pdfs/ar/AR-1252.pdf>

²⁹ <https://www3.epa.gov/region1/npdes/merrimackstation/pdfs/ar/AR-96.pdf>

³⁰ <https://www.wildlife.state.nh.us/wildlife/wap.html>

that American eels have been documented as far north as Claremont, Holderness, and Wakefield in the Connecticut River, Merrimack River, and Coastal watersheds, respectively.”

- “Although juvenile eels have the ability to ascend almost any wetted surface, including vertical dam faces, and find passage through small cracks or leaks in most structures, the overall upstream movement of American eels in most river systems is greatly reduced and size selective. A number of studies have documented reduced eel densities upstream of dams (Haro et al. 2000). Sprankle (2002) noted a significant difference in eel catch per unit effort between sampling sites upstream and downstream of the first dam on the Merrimack River in Lawrence, MA. Catch rates from the upper Merrimack River, in New Hampshire, were the lowest of all sites surveyed in the study.”

The Exemptee has conducted site visits and been in consultation with state and federal agencies including USFWS and NHFG. The Project is in compliance with all resource agency recommendations regarding upstream fish passage at the Project.

3.3.2 BYPASS REACH AND TAILRACE

CRITERION	STANDARD	INSTRUCTIONS
C	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none">• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement.• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.

Article 2 of the Stevens Mill project's FERC Exemption from Licensing dated June 14, 1983 requires compliance with any terms and conditions that Federal or State fish and wildlife agencies have determined appropriate to prevent loss of, or damage to, fish and wildlife resources.

No upstream passage has been required at the Project to date. In addition, there is no upstream fish passage at the FERC exempt Franklin Falls Project (owned by Franklin Falls Hydro Electric), the next dam downstream of Stevens Mill Project, and the last dam before the Winnepesaukee River's confluence with the Pemigewasset River to form the Merrimack River. The next dam upstream of the Project is approximately 2.5 river miles upstream, the Clement Dam, which also has no required upstream passage.

Eagle Creek's August 14, 2014 voluntary MOA with USFWS established a plan and schedule for addressing fish passage (for River herring and American Eel) and minimum flow issues. The Stevens Mill Project is in compliance with the requirements of the MOA and the Exemptee has not been asked by any agency to install upstream passage facilities at the site. Upstream passage will be reviewed in 2020 per the terms of the MOA as part of discussions associated with the development of the extension to the MOA.

The Exemptee has conducted site visits and been in consultation with state and federal agencies including USFWS and NHFG. The Project is in Compliance with all resource agency recommendations regarding upstream fish passage at the Project.

3.4 DOWNSTREAM FISH PASSAGE AND PROTECTION STANDARDS

3.4.1 ALL ZOES

CRITERION	STANDARD	INSTRUCTIONS
D	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none">• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally stringent).• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement.• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.

Article 2 of the Stevens Mill Project's FERC Exemption from Licensing dated June 14, 1983 requires compliance with any terms and conditions that Federal or State fish and wildlife agencies have determined appropriate to prevent loss of, or damage to, fish and wildlife resources.

Eagle Creek's August 14, 2014 voluntary MOA with USFWS (updated in 2019) established a plan and schedule for addressing fish passage (for River herring and American Eel) and minimum flow issues. The Stevens Mill Project installed downstream passage at the Project in 2016, has fully operational downstream passage facilities, and is in compliance with all requirements of the MOA. Based on the MOA, the Exemptee developed measures to exclude downstream migrants from the hydropower intakes and provide bypassed passage around the dam to support fish passage.

At the Riverbend facility the final design supported by USFWS, NHFG and NHDES, and installed, included ¾" exclusionary trashrack overlay panels at the Unit 1 intake, blocking racks perpendicular to flow at the Unit 3 intake, modifications to the existing sluice gate, and an installed plunge pool and conveyance channel.

On November 7, 2016, comments were received from John Warner, USFWS (Appendix C), regarding the adequacy of fish passage at the Project. His comments concluded that Stevens Mill completed its downstream passage measures as agreed to, although the adequacy of those measures will be subject to ongoing observation, and future changes may be required.

As part of the MOA required Fishway Operations Plan, the Exemptee continues to coordinate with agencies and conduct site visits, as requested, on an annual basis to review operation of the

downstream passage facilities. The agencies and Exemptee met for their annual site visit on August 16, 2017, and September 5, 2018.

On September 18, 2019, inspections of the downstream passage facilities were conducted at multiple project sites, including the Stevens Mill Project. The USFWS noted a buildup of sediment in front of the Unit 3 intake racks, which operators confirmed had occurred over the course of multiple years. After the inspection, the Parties agreed that the Exemptee would review the Unit 3 intake on an annual basis, and dredge at least every two years, as needed (see Appendix C). Overall, the USFWS has noted that the Project's downstream fish passage facility is being operated successfully.

Under the terms of the MOA, Eagle Creek was to prepare and file for approval by the USFWS, an Operations and Flow Monitoring Plan for monitoring the run-of-river operation and bypass flows. The Operations and Flow Monitoring Plan and the Fishway Operations and Maintenance Plan, the second plan required by the MOA (collectively the Plans), were developed based upon a mutually agreeable schedule that allowed downstream fish passage facilities at certain New Hampshire Projects to first be placed into service. Both Plans were prepared and submitted to USFWS and approved in 2017. Eagle Creek updated the Plans in December 2018. Eagle Creek received comments from agencies on the Operations and Flow Monitoring Plan in September 2019. The Operations and Flow Monitoring Plan will be updated based on further discussions with the agencies as Eagle Creek works with the USFWS and NHFG to extend this MOA. Further, as part of these discussions it has been agreed that both Plans will be combined into a single plan.

The Franklin Falls Project, the next dam downstream of Stevens Mill Project, and the last dam before the Winnepesaukee River's confluence with the Pemigewasset River to form the Merrimack River, was asked by the agencies to install downstream passage in 2012.³¹ The next dam upstream of the Project, the Clement Dam, has downstream fish passage facilities. None of the projects (Franklin Falls, Stevens Mill or Clement) are required to have upstream fish passage facilities.

Migratory species historically present in the Winnepesaukee River include, alewife, American Shad, blueback herring, Atlantic salmon, and American eel. There are no formal, final restoration plans or management plans for river herring or American eel in the Winnepesaukee River. Atlantic salmon occurred historically in the Merrimack River watershed; however, the USFWS terminated Atlantic salmon restoration efforts for the Merrimack River in 2013 due to a lack of funds and a change in management direction.

The Exemptee has conducted site visits and been in consultation with state and federal agencies including USFWS and NHFG. The Project is in compliance with all resource agency recommendations regarding downstream fish passage at the Project.

³¹ <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=12990123>

3.5 SHORELINE AND WATERSHED PROTECTION STANDARDS

3.5.1 ALL ZOES

CRITERION	STANDARD	INSTRUCTIONS
E	1	<u>Not Applicable / De Minimis Effect:</u> <ul style="list-style-type: none">• If there are no lands with significant ecological value associated with the facility, document and justify this (e.g., describe the land use and land cover within the project boundary).• Document that there have been no Shoreline Management Plans or similar protection requirements for the facility.

The FERC license exemption does not include a requirement for a Shoreline Management Plan. The Project's dam creates an impoundment with a surface area of approximately one acre. The dam's backwater extends less than 500 feet upstream. The Project is located in downtown Franklin, a developed urban area in an industrialized zoned, though there are two parks, Trestle View Park, just upstream of the dam and Odell Park, along the bypass reach of the Winnepesaukee River. The majority of the stream bank in the project area is comprised of buildings with the remainder parking areas.

Vegetation is minimal with a few sparse grassy areas. The area adjacent to both sides of the river are part of a populated urban/industrial area, There is development on both sides of the river and dam – industrial buildings on the south side of the Project, and a road with houses on the north side. No protected buffer zones have been created along the riverine impoundment through a settlement agreement or the FERC exemption. There is no watershed enhancement fund for the Project. There are no resource agency recommendations regarding shoreline and watershed protection standards at the Project.

Land cover types can be seen in Figure 3-1 below. All of the land in the immediate vicinity of the Stevens Mill dam is urban in character, highly developed and privately owned. There have been no deficiencies noted by any agency with jurisdiction for the plant.

The Project is in compliance with all resource agency recommendations regarding shoreline and watershed protections at the Project.

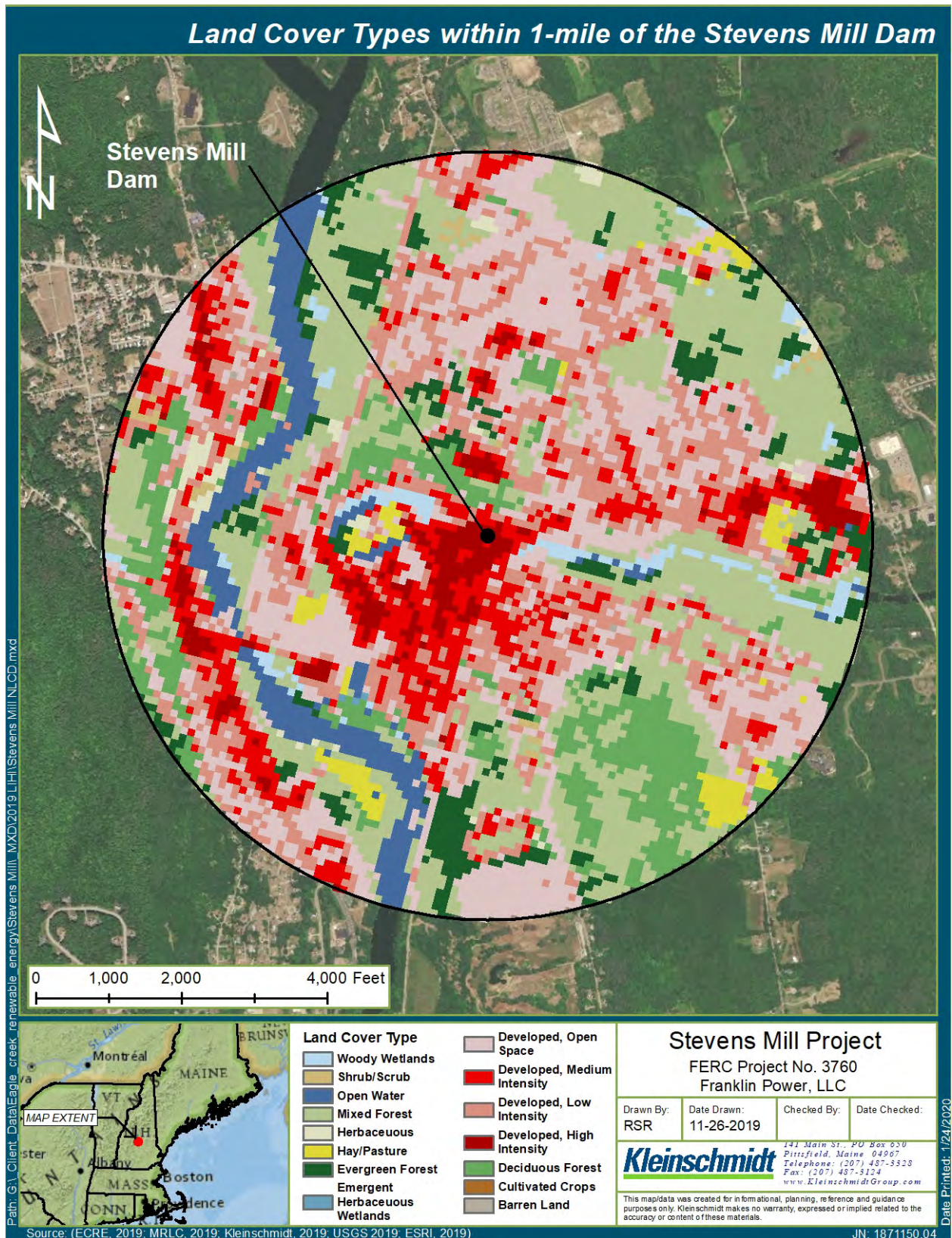


FIGURE 3-1 LAND USE CLASSIFICATIONS IN PROJECT AREA

3.6 THREATENED AND ENDANGERED SPECIES STANDARDS

3.6.1 ALL ZOES

CRITERION	STANDARD	INSTRUCTIONS
F	2	<p><u>Finding of No Negative Effects:</u></p> <ul style="list-style-type: none">• Identify all federal and state listed species in the facility area based on current data from the appropriate state and federal natural resource management agencies.• Provide documentation that there is no demonstrable negative effect of the facility on any listed species in the area from an appropriate natural resource management agency or provide documentation that habitat for the species does not exist within the ZOE or is not impacted by facility operations.

Eagle Creek’s August 14, 2014 voluntary MOA with USFWS (updated in 2019) established a plan and schedule for addressing fish passage and minimum flow issues. In this MOA, the USFWS acknowledged that there are no Federally listed or proposed endangered or threatened species under the USFWS’s jurisdiction that are known to exist in the Project’s impact area. In addition, no habitat in the Project’s impact area is currently designated or proposed “critical habitat” in accordance with the Endangered Species Act.

On February 25, 2020, an Information for Planning and Consultation (IPaC) report was generated from the USFWS online project planning tool to confirm threatened and endangered species in the Project facility area. One species may potentially have habitat in the Project facility area:


- The Northern Long-eared Bat (*Myotis septentrionalis*), which is listed as Threatened. The northern long-eared bat (NLEB) was listed as a federally threatened species under the ESA on May 4, 2015 and is also a species of special concern in New Hampshire.
 - The Exemptee abides by the NLEB 4(e) ruling.

The IPaC report also listed six (6) migratory birds protected under the Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act. The birds listed below are birds of particular concern because they are either a USFWS Bird of Conservation Concern or may warrant special protections in the project area.

- Bald Eagle (*Haliaeetus leucocephalus*)
- Black-billed Cuckoo (*Coccyzus erythrophthalmus*)
- Canada Warbler (*Cardellina canadensis*)
- Prairie Warbler (*Dendroica discolor*)
- Olive-sided Flycatcher (*Contopus cooperi*) and
- Wood Thrush (*Hylocichla mustelina*)

Although these species of migratory birds may be present in the Project vicinity, there are no provisions or management plans required of the Exemptee with regard to species protection. The Project complies with all provisions under the Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act.

The New Hampshire Natural Heritage Bureau (NHNHB) keeps a list of rare species (terrestrial, palustrine, plants, birds, fish, reptiles, invertebrates) by town.³² Endangered, Threatened, and “Special Concern” species found in Franklin, New Hampshire are outlined below in Figure 3-2.



New Hampshire Natural Heritage Bureau

Rare Species and Exemplary Natural Communities

Town Lists

Town Flag	Species or Community Name	Listed?		# Locations Reported in the last 20 years:	
		Federal	State	Town	State

Franklin

Natural Communities - Palustrine

Aquatic bed

--

--

Historical

2

Major river silver maple floodplain system

--

--

Historical

1

Silver maple - false nettle - sensitive fern floodplain forest

--

--

Historical

19

Plants

Allegheny-vine (*Adlumia fungosa*)

--

E

Historical

20

* hairy hudsonia (*Hudsonia tomentosa*)

--

T

1

17

northern wild senna (*Senna hebecarpa*)

--

E

Historical

10

pink shinleaf (*Pyrola asarifolia* ssp. *asarifolia*)

--

E

Historical

10

ram's-head lady's-slipper (*Cypripedium arietinum*)

--

E

Historical

13

Vertebrates - Birds

** Bald Eagle (*Haliaeetus leucocephalus*)

--

SC

2

125

** Common Loon (*Gavia immer*)

--

T

1

319

** Common Nighthawk (*Chordeiles minor*)

--

E

1

12

Vertebrates - Fish

** American Eel (*Anguilla rostrata*)

--

SC

1

177

Invertebrates - Mollusks

*** Brook Floater (*Alasmodonta varicosa*)

--

E

1

33

Source: NH Natural Heritage Bureau, April 2019³³

FIGURE 3-2 NEW HAMPSHIRE NATURAL HERITAGE BUREAU LISTED SPECIES FOUND IN FRANKLIN, NH

³² <https://www.nh.gov/nhdf/reports/rare-plant-list.htm>

³³ <https://www.nh.gov/nhdf/documents/town-lists.pdf>

Of the NHHB list of species, the 2015 New Hampshire Fish and Game (NHFG) Department Wildlife Action Plan³⁴ of the State of New Hampshire, lists the following species as endangered or a Species of Special Concern:

- Common Loon (*Gavia immer*)³⁵ is Threatened,
- Common Nighthawk (*Chordeiles minor*)³⁶ is Endangered,
- American Eel (*Anguilla rostrata*)³⁷ is a state Species of Special Concern, and
- Brook Floater Mussel (*Alasmidonta varicose*)³⁸ is Endangered.

Common Loon populations are managed through a variety of activities to enhance nesting success however overall nesting success rates has declined and techniques need to be reevaluated. There is no habitat management being conducted for the Common Nighthawk by NHFG. Downstream fish passage was installed at the Project in 2016 to accommodate American Eel. A recovery plan for the Brook Floater Mussel has not been developed. Neither a Biological Opinion nor Incidental Take Permit have been issued for any of these species for the Stevens Mill Project. As such, the Project is in compliance with all resource agency recommendations regarding threatened and endangered species at the Project.

As noted above, the Exemptee conducted recent reviews of the USFWS IPaC and NHHB reports for the Project. In addition, the Exemptee gained USFWS and NHDES approval for the recent downstream fish passage facilities as part of passage permitting requirements. The Project is in compliance with all resource agency recommendations regarding endangered species standards at the Project.

Between February 19 and February 27, 2020, Kleinschmidt Associates attempted to run a New Hampshire Natural Heritage Bureau data request, however the tool is currently not working. Kleinschmidt will submit an NHB data request confirmation page, and forward the report to LIHI when the tool is accessible again

³⁴ <https://wildlife.state.nh.us/wildlife/wap.html>

³⁵ <https://wildlife.state.nh.us/wildlife/profiles/wap/birds-commonloon.pdf>

³⁶ <https://wildlife.state.nh.us/wildlife/profiles/wap/birds-commonnighthawk.pdf>

³⁷ <https://wildlife.state.nh.us/wildlife/profiles/wap/fish-americaneel.pdf>

³⁸ <https://wildlife.state.nh.us/wildlife/profiles/wap/mussel-brookfloater.pdf>

3.7 CULTURAL AND HISTORIC RESOURCES STANDARDS

3.7.1 ALL ZOEES

CRITERION	STANDARD	INSTRUCTIONS
G	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none">• Document that there are no cultural or historic resources located on facility lands that can be affected by construction or operations of the facility.• Document that the facility construction and operation have not in the past adversely affected any cultural or historic resources that are present on facility lands.

No known sites of historic or archeological importance have been discovered in the Steven's Mill project area. FERC did not require the original Exemptee to develop a cultural resource management plan.

There is no evidence of conflicts with respect to cultural resources protection. During the FERC exemption process, the Stevens Mill complex was identified as being within the Franklin Falls Historic District listed in the National Register of Historic Places. By letter dated April 19, 1983,³⁹ the applicant for the exemption agreed to implement cultural resource mitigation measures as outlined in a February 14, 1983 letter issued by the New Hampshire Department of Resources and Economic Development⁴⁰ in response to the application for exemption. A determination was made that, based on the implementation of the cultural resource mitigation measures described in their February 14, 1983 letter, the Stevens Mill project would have no adverse effect upon properties within the Franklin Falls Historic District. The Stevens Mill project has continuously operated under the parameters established in the February 14, 1983 letter and has had no adverse impact on historical or cultural resources located within the project boundary. The FERC exemption incorporates Special Article 6 to address historic properties by requiring consultation with the State Historic Preservation Officer and implementing certain measures to avoid or mitigate impacts to the district.

The Exemptee requested consultation with state and federal agencies, during the installation of downstream fish passage facilities, including the New Hampshire State Historic Preservation Office (NHSHPO) (no response was received) and the Army Corps of Engineers (ACOE) contact with the NHSHPO for purposes of Section 106 consultation (response letter January 11, 2015⁴¹ with a finding of no known resources likely to be affected). The Project is in compliance with all resource agency recommendations regarding cultural and historic resources standards at the Project.

³⁹ <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11765181>

⁴⁰ Attached to the amended application dated March 15, 1983:
<https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11765120>

⁴¹ This letter is dated 2016, however, the Exemptee believes that this is a typographical error, and the letter was meant to say 2015, not 2016.

3.8 RECREATIONAL RESOURCES STANDARDS

3.8.1 ALL ZOES

CRITERION	STANDARD	INSTRUCTIONS
H	1	<u>Not Applicable / De Minimis Effect:</u> <ul style="list-style-type: none">• Document that the facility does not occupy lands or waters to which public access can be granted and that the facility does not otherwise impact recreational opportunities in the facility area.

Although recreation opportunities are limited in the area, the Exemptee allows recreational access free of charge within a safe distance of the project works.

The Stevens Mill Project is not required by any state or federal agency to maintain recreation access facilities within the project vicinity. There have been no changes in the regulatory status of the project since the issuance of the FERC Exemption for the project in 1983, nor have there been any agency comments noting deficiencies in the Project's compliance with any conditions contained in the documents related to the FERC Exemption and agency review of the Project.

Due to the Project's location between buildings on both banks, the rocky nature of the reach of the Winnepesaukee River upon which the Project is located and the commercially developed aspect of the project property, little to no recreational activity occurs at the project to date.

The Rivers Management and Protection Program Act was passed by the General Court in the State of New Hampshire in 1988. In 1990, NHDES nominated the Upper Merrimack River for protection status, which includes the Project area. According to the NHDES Designated Rivers Program,⁴² the Winnepesaukee River, in Franklin, is part of the Upper Merrimack River Designation and is guided by the Upper Merrimack Management and Implementation Plan.⁴³ The Upper Merrimack River begins at the confluence of the Pemigewasset and Winnepesaukee Rivers in Franklin, and flows for approximately 30 miles south through the communities of Franklin and others. The Plan sets resource management goals for water quality, wildlife habitat, recreation, agriculture and riparian lands management. As part of the NHDES Designated Rivers Program, the towns associated with the Plan focus on open space and land use protection as town forests, parks, dedicated open space, parks, etc.; the town of Franklin has conserved 13.3 percent of its land. There are two parks near the project, Trestle View Park, just upstream of the dam, and Odell Park which has a playground, playing fields, picnic areas, and walking trails along the bypass reach of the river.

There are partnership organizations of state, regional and local public agencies, universities and nonprofit organizations working on behalf of preserving the natural resources of Lake

⁴² <https://www.des.nh.gov/organization/divisions/water/wmb/rivers/designriv.htm>

⁴³ <https://www.des.nh.gov/organization/divisions/water/wmb/rivers/documents/mer-up-plan.pdf>

Winnepesaukee and its watershed, including the Winnepesaukee Gateway⁴⁴ and the Lake Winnepesaukee Association.⁴⁵

The Project is not subject to a Recreation Resources Management Plan, and as such, is in compliance with all resource agency recommendations recreation resources standards at the Project.

⁴⁴ <http://winnepesaukeegateway.org/about/>

⁴⁵ <http://www.winnepesaukee.org/>

4.0 FACILITY CONTACTS FORM

1. All applications for LIHI Certification must include complete contact information to be reviewed.

Project Owner:	
Name and Title	Robert Gates, Vice President
Company	Franklin Power, LLC.
Phone	973-998-8403
Email Address	Bob.Gates@eaglecreekre.com
Mailing Address	65 Madison Avenue, Suite 500, Morristown, NJ 07960
Consulting Firm / Agent for LIHI Program (if different from above):	
Name and Title	Nuria Holmes & Fatima Oswald
Company	Kleinschmidt Associates
Phone	971-266-5395
Email Address	Nuria.Holmes@KleinschmidtGroup.com Fatima.Oswald@KleinschmidtGroup.com
Mailing Address	1500 NE Irving Street, Suite 550, Portland, OR 97232
Compliance Contact (responsible for LIHI Program requirements):	
Name and Title	Robert Gates, Vice President
Company	Franklin Power, LLC.
Phone	973-998-8403
Email Address	Bob.Gates@eaglecreekre.com
Mailing Address	65 Madison Avenue, Suite 500, Morristown, NJ 07960
Party responsible for accounts payable:	
Name and Title	Robert Gates, Vice President
Company	Franklin Power, LLC.
Phone	973-998-8403
Email Address	Bob.Gates@eaglecreekre.com
Mailing Address	65 Madison Avenue, Suite 500, Morristown, NJ 07960

2. Applicant must identify the most current and relevant state, federal, provincial, and tribal resource agency contacts (copy and repeat the following table as needed).

Agency Contact (Check area of responsibility: Flows <input checked="" type="checkbox"/> , Water Quality <input type="checkbox"/> , Fish/Wildlife Resources <input checked="" type="checkbox"/> , Watersheds <input checked="" type="checkbox"/> , T/E Spp. <input type="checkbox"/> , Cultural/Historic Resources <input type="checkbox"/> , Recreation <input type="checkbox"/>):	
Agency Name	United States Fish and Wildlife Service (USFWS)
Name and Title	Julianne Rosset; Fish & Wildlife Biologist
Phone	603-227-6436
Email address	julianne_rosset@fws.gov
Mailing Address	USFWS New England Field Office 70 Commercial Street, Suite 300 Concord, NH 03301
Agency Contact (Check area of responsibility: Flows <input checked="" type="checkbox"/> , Water Quality <input checked="" type="checkbox"/> , Fish/Wildlife Resources <input type="checkbox"/> , Watersheds <input checked="" type="checkbox"/> , T/E Spp. <input type="checkbox"/> , Cultural/Historic Resources <input type="checkbox"/> , Recreation <input type="checkbox"/>):	
Agency Name	New Hampshire Department of Environmental Services (NHDES)
Name and Title	Gregg Comstock, P.E.; Supervisor, Water Quality Planning Section
Phone	603-271-2983
Email address	gregg.comstock@des.nh.gov
Mailing Address	NH Department of Environmental Services 29 Hazen Drive, P.O. Box 95 Concord, NH 03302-0095
Agency Contact (Check area of responsibility: Flows <input type="checkbox"/> , Water Quality <input checked="" type="checkbox"/> , Fish/Wildlife Resources <input checked="" type="checkbox"/> , Watersheds <input type="checkbox"/> , T/E Spp. <input checked="" type="checkbox"/> , Cultural/Historic Resources <input type="checkbox"/> , Recreation <input checked="" type="checkbox"/>):	
Agency Name	New Hampshire Fish and Game Department (NHFGD)
Name and Title	Carol Henderson; Environmental Review Coordinator
Phone	603-271-1138
Email address	Carol.Henderson@wildlife.nh.gov
Mailing Address	New Hampshire Fish and Game Department 11 Hazen Drive Concord, NH 03301
Agency Contact (Check area of responsibility: Flows <input type="checkbox"/> , Water Quality <input type="checkbox"/> , Fish/Wildlife Resources <input type="checkbox"/> , Watersheds <input type="checkbox"/> , T/E Spp. <input type="checkbox"/> , Cultural/Historic Resources <input checked="" type="checkbox"/> , Recreation <input type="checkbox"/>):	
Agency Name	New Hampshire Division of Historical Resources
Name and Title	Nadine Miller; Deputy State Historic Preservation Officer
Phone	603-271-6628
Email address	Nadine.Miller@dncr.nh.gov
Mailing Address	NH Division of Historical Resources 19 Pillsbury Street – 2 nd Floor Concord, NH 03301-3570

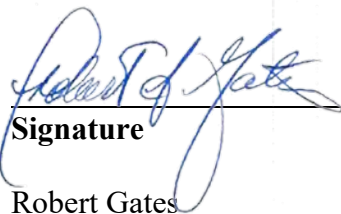
5.0 SWORN STATEMENT

As an Authorized Representative of Franklin Power, LLC., the Undersigned attests that the material presented in the application is true and complete.

The Undersigned acknowledges that the primary goal of the Low Impact Hydropower Institute's Certification Program is public benefit, and that the LIHI Governing Board and its agents are not responsible for financial or other private consequences of its certification decisions.

The Undersigned further acknowledges that is certification of the applying facility is issues, the LIHI Certification Mark License Agreement must be executed prior to marketing the electricity product as LIHI Certified.

The Undersigned Applicant further agrees to hold the Low Impact Hydropower Institute, the Governing Board, and its agents harmless for any decision rendered on this or other applications, from any consequences of disclosing or publishing any submitted certification application materials to the public, or on any other action pursuant to the Low Impact Hydropower Institute's Certification Program.



Signature

Robert Gates

Name

Vice President

Title

Franklin Power, LLC.

Company

APPENDIX A

ORDER ISSUING EXEMPTION FROM LICENSING FOR STEVENS MILL PROJECT and

1983 application for exemption

1998 order amending the exemption

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

23 FERC 962,342

- 2 -

Franklin Industrial Complex, Inc.) Project No. 3760-000 and
3760-001

ORDER GRANTING EXEMPTION FROM LICENSING OF A
SMALL HYDROELECTRIC PROJECT OF 5 MEGAWATTS OR LESS

(Issued June 14, 1983)

On March 20, 1980, Franklin Electric Light and Power Company (FELP) filed a license application for the proposed Franklin Falls Project No. 3093, located on the Winnepesaukee River in Franklin, New Hampshire. On September 10, 1980, FELP filed a preliminary permit application for the proposed Stevens Mill Dam Project No. 3454, located on the Winnepesaukee River in Franklin, New Hampshire.

Franklin Industrial Complex, Inc. (FICI) filed on November 19, 1980, an application for license for the proposed Franklin Mills Project No. 3760, which would compete with Project Nos. 3093 and 3454. While its license application was still pending, FICI filed a competing application for exemption Project No. 3760-001 from Part I of the Federal Power Act, on April 28, 1981, and subsequently revised the exemption application on March 15, 1983, for the proposed Stevens Mill Dam Project. 1/ The application was filed pursuant to the Commission's regulations, 18 C.F.R. §54.101 4.108 (1982), implementing Section 408(b) of the Energy Security Act of 1980 (ESA). 2/ Subsequently, on April 6, 1983, FELP withdrew its applications for Projects Nos. 3093 and 3454,

thereby leaving the exemption application for Project No. 3760-001 as the outstanding application for the proposed site. 3/

FICI's original exemption application proposed, *inter alia*, the construction of a powerhouse on the bank of the Winnepesaukee River and the removal of the lower Memorial Street Dam. Citizens of the City of Franklin, New Hampshire, the Franklin Fire Department, and the Franklin Revitalization Committee expressed opposition to this proposal, asserting that it would seriously impair the City's fire protection system and adversely affect the aesthetics of the City. The revised exemption proposal described below entails the utilization of the existing powerhouse and an existing penstock. The project is located within the Franklin Falls Historic District, a property listed in the National Register of Historic Places. The project would not have an adverse effect on the historic structures in the district if the Exemptee implements certain measures to avoid and mitigate impacts recommended by the New Hampshire State Historic Preservation Officer and the Commission's Staff. The Advisory Council on Historic Preservation has been consulted concerning the effect of the project on the historic district. Article 6 requires implementation of the recommended measures. It appears that these measures, taken in conjunction with the revised plans, address the concerns raised by those commenting on the original exemption application and indicate that the proposed exemption project is in the public interest.

Notice of the exemption application was published in accordance with Section 408 of the ESA and the Commission's regulations and comments were requested from interested Federal and State agencies including the U.S. Fish and Wildlife Service and the State Fish and Wildlife Agency. All comments, protests and petitions to intervene that were filed have been considered. No agency has any objection relevant to issuance of this exemption.

- 1/ FICI's license and exemption proposals are substantially identical. Because of the action taken on the exemption application, the application for license is dismissed in Ordering paragraph (B) below.
- 2/ Pub. Law 96-294, 94 Stat. 611. (1980). Section 408 of the ESA amends *inter alia*, Sections 405 and 408 of the Public Utility Regulatory Policies Act of 1978 (16 U.S.C. §§2705 and 2708).

DC-A-9

- 3/ Authority to act on this matter is delegated to the Deputy Director, Office of Electric Power Regulation, under §375.308 of the Commission's regulations, 18 C.F.R. §375.308 (1982). This order may be appealed to the Commission by any party within 30 days of its issuance pursuant to Rule 1902, 18 C.F.R. §385.1902, 47 Fed. Reg. 19047 (1982). Filing an appeal and final Commission action on that appeal are prerequisites for filing an application for rehearing as provided in Section 313(a) of the Act. Filing an appeal does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically directed by the Commission.

ALG-NH02022

- 3 -

Project Description

The proposed project as described in the March 15, 1983, amendment to the exemption application originally filed on April 20, 1981, would be located on the Winnepesaukee River, in Merrimack County, New Hampshire and would consist of: (1) an existing 22-foot-high concrete gravity dam known as the Stevens Dam and designated as No. 27.05 by the New Hampshire Water Resources Board; (2) an existing one-acre reservoir with a normal water surface elevation of 315.24 feet M.S.L.; (3) a proposed 740-foot-long penstock beginning at the Stevens Dam and running along the south bank. At the northwest corner of the South Stevens Mills building the penstock would connect to (4) an existing 420-foot-long penstock to (5) the existing River Bend powerhouse with new units having a total installed capacity of 1,600 kW; (6) an existing 150-foot-long penstock at the Stevens Mill Dam connected to the existing Bow Street powerhouse at the north river bank containing turbine generators with a total rated capacity of 340 kW; (7) two transmission lines; and (8) appurtenant works.

Standard Article 2, included in this exemption, requires compliance with any terms and conditions that Federal or State fish and wildlife agencies have determined appropriate to prevent loss of, or damage to, fish and wildlife resources. The terms and conditions referred to in Article 2 are contained in any letters of comment by these agencies which have been forwarded FIC in conjunction with this exemption.

Should FIC contest any terms or conditions that were proposed by Federal or State agencies in their letters of comment as being outside the scope of Article 2, the Commission shall determine whether the disputed terms or conditions are outside the scope of Article 2.

Based on the terms and conditions required by Federal and State fish and wildlife agencies, the environmental information in the application for exemption, other public comments, and staff's independent analysis, issuance of this order is not a major Federal action significantly affecting the quality of the human environment.

It is ordered that:

(A) Stevens Mills Project No. 3760-001 as described and designated in Franklin Industrial Complex's application filed on April 20, 1981, and amended on March 15, 1983, is exempted from all of the requirements of Part 1 of the Federal Power Act, including licensing, subject to the standard articles in §4.106, of the Commission's regulations attached hereto as Form E-2, 18 C.F.R. §4.106 45 Fed. Reg. 76115 (November 10, 1980), and the following Special Article:

River
= 1600
= Stevens mill
→ 250 kW - Today

- 4 -

Article 6. The Exemptee shall, in consultation with the New Hampshire State Historic Preservation Officer (SHPO), and prior to any construction that will impact any structural components of the Franklin Falls Historic District, implement the following measures to avoid or mitigate impacts to the district from the project: (1) project construction shall not include the demolition of any historic building within the district; (2) the new penstock in the Stevens Mill powerhouse will be constructed so as to exit the west wall of the building in a manner similar to that of the existing penstock on the east side; (3) the Secretary of the Interior's Standards for Historic Preservation Projects shall be adhered to in all exterior rehabilitation and restoration work at the River Bend, Stevens Mill, and Bow Street hydroelectric stations, in repairs and any necessary rehabilitation or restoration of Stevens Mill Dam and existing penstock, and in the construction of new penstock; (4) the existing penstock and the internal equipment of the River Bend, Stevens Mill, and Bow Street hydroelectric stations will be assessed to determine their historical significance, and will be documented in a report according to the standards of the Historic American Engineering Record of the U.S. Department of the Interior if it is determined that such equipment or penstock is significant and will be impacted by the project; (5) the number and location of dry hydrants or other fire protection measures that will be necessary in the project vicinity for the historic district will be approved by the Fire Chief of the City of Franklin; (6) Riprap will be placed on the side of the island nearest the River Bend Mill to prevent excessive erosion from the tailwater of the River Bend station. The Exemptee shall make funds available in a reasonable amount for the implementation of these measures as required. If any previously unrecorded archeological or historical sites are discovered during the course of construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted, a qualified archeologist shall be consulted to determine the significance of the sites, and the Exemptee shall consult with the SHPO to develop and implement a mitigation plan for the protection of significant archeological or historical resources.

(B) The license application filed on November 9, 1980, by Franklin Industrial Complex, Inc. for Project No. 3760-000 is dismissed.

Lawrence R. Anderson
Lawrence R. Anderson
Director, Office of Electric
Power Regulation

§ 4.106 Standard terms and conditions of exemption from licensing.

Any exemption from licensing granted under this subpart for a small hydroelectric power project is subject to the following standard terms and conditions:

(a) Article 1. The Commission reserves the right to conduct investigations under sections 4(g), 306, 307, and 311 of the Federal Power Act with respect to any acts, complaints, facts, conditions, practices, or other matters related to the construction, operation, or maintenance of the exempt project. If any term or condition of the exemption is violated, the Commission may revoke the exemption, issue a suitable order under section 4(g) of the Federal Power Act, or take appropriate action for enforcement, forfeiture, or penalties under Part III of the Federal Power Act.

(b) Article 2. The construction, operation, and maintenance of the exempt project must comply with any terms and conditions that any Federal or state fish and wildlife agencies have determined are appropriate to prevent loss of, or damage to, fish or wildlife resources or otherwise to carry out the purposes of the Fish and Wildlife Coordination Act, as specified in Exhibit E of the application for exemption from licensing or in the comments submitted in response to the notice of the exemption application.

(c) Article 3. The Commission may accept a license application by any qualified license applicant and revoke this exemption if actual construction or development of any proposed generating facilities has not begun within 18 months, or been completed within 18 years, from the date on which this exemption was granted. If exemption is revoked, the Commission will not accept a subsequent application for exemption within two years of the

(d) Article 4. This exemption is subject to the navigation servitude of the United States if the project is located on navigable waters of the United States.

(e) Article 5. This exemption does not confer any right to use or occupy any Federal lands that may be necessary for the development or operation of the project. Any right to use or occupy any Federal lands for those purposes must be obtained from the administering Federal land agencies. The Commission may accept a license application by any qualified license applicant and revoke this exemption, if any necessary right to use or occupy Federal lands for those purposes has not been obtained within one year from the date on which this exemption was granted.

~~P-7151-000~~

Before The
Federal Energy Regulatory Commission

ORIGINAL

P-3760-002

AMENDMENT TO
Application for Exemption of
Small Hydroelectric Power Project
from Licensing

THIS DOCUMENT CONTAINS
FOIA EXEMPT INFORMATION

RECEIVED
FEB 15 1983
MAR 15 PM 2:49
REGISTRATION DIVISION

STEVENS MILLS PROJECT

Franklin Industrial Complex Incorporated

8303310176

FERC - DOCKETED

MAR 15 1983

~~P-7151-000~~
P-3760-002

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

AMENDMENT TO APPLICATION FOR EXEMPTION
OF SMALL HYDROELECTRIC POWER/PROJECT
FROM LICENSING

1. Franklin Industrial Complex Incorporated (FICI) hereby applies to the Federal Energy Regulatory Commission for an Exemption for the Stevens Mill Dam Project as revised by an agreement with Franklin Electric Light and Power (FEL&P) (Projects 3454 & 3093) which is proposed to have an installed capacity of less than 5 MW from licensing under the Federal Power Act.
2. The location of the project is:

State: New Hampshire
County: Merrimack
City: Franklin
Stream: Winnipisauke River
3. The exact name and business address of the applicant is:

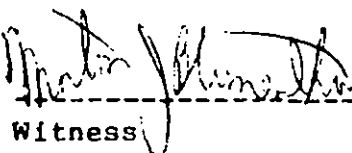
Franklin Industrial Complex Incorporated
Smith and Canal Streets
Franklin, New Hampshire 03235
4. The exact name and business address of each person authorized to act as agent for the applicant in this application are:

Arthur H. Steckler, President
Franklin Industrial Complex Inc.
Smith and Canal Streets
Franklin, New Hampshire 03235

G. Douglas Essy, Esq.
McCarthy, Sweeney & Harkaway, P.C.
1750 Pennsylvania Avenue, N.W.
Washington, DC 20006
(202) 393-5710
5. Franklin Industrial Complex Inc. is a corporation incorporated under the laws of the State of New Hampshire. FICI owns the property, dam, water rights, and appurtenant buildings of the Stevens Mill Dam Site.

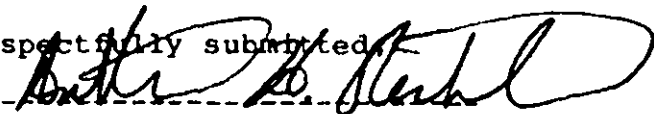
6. This amendment to an application from licensing covers the project for which a preliminary permit was sought by FEL&P (Project No. 3454), a short form license was sought by FEL&P (Project No. 3093) and a competing license application was filed by FICI (Project No. 3760). The competing parties FEL&P and FICI have reached an agreement whereby FICI acquires all rights, properties and interests of FEL&P in the hydropower development at the project site. This agreement is attached as Appendix II.
7. The following Exhibits and Appendices are herewith files and are hereby made a part of this application:

Exhibit A	-	Project Description
Exhibit B	-	Location Maps
Exhibit E	-	Environmental Report
Exhibit G	-	General Arrangement Drawings
Appendix I	-	Evidence of Real Property Interests
Appendix II	-	Agreement



 Witness

by

Respectfully submitted,


 Arthur Steckler
 President
 Franklin Industrial Complex,
 Inc.

3/15/83

 Date

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of the foregoing document upon all parties of record in this proceeding in accordance with the requirements of 18 CFR 551.17 and 4.104(d) of the Commission's Regulations and Rules of Practice and Procedure.

Dated at Washington, D.C. this 15~~th~~ day of March 1983.

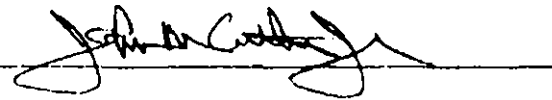
A handwritten signature, likely "John A. Cuthbert", is written over a horizontal line.

Exhibit A - Project Description - AmendedA.1 - Physical Composition

The proposed project is located on the Winnepesaukee River within the City of Franklin, New Hampshire. It is located approximately one mile upstream of the confluence of the Winnepesaukee and the Pemigewasset Rivers and about 3 miles downstream of USGS gage number 01081000 at Tilton. As shown in Exhibit B, the river forms a horseshoe bend to the southwest of the City. Three dams are located on this bend; the uppermost is the Stevens Mill Dam (Water Resources Board Number 87.07) which is owned by the Franklin Industrial Complex, Inc. (FICI) and is the subject of this application.

The Stevens Mill Dam is a concrete gravity structure approximately 80 feet long and 22 feet in height. The crest elevation is reported as 312.55 (USGS); however, it is equipped with 3 foot flashboards providing an overflow elevation of 315.28 feet. The impoundment created by this structure covers approximately one acre with a pool elevation maintained at approximately 315 feet elevation (USGS).

Adjacent to the dam on each bank are water intakes for the two existing hydroelectric units. These units are located within the mill buildings approximately 75 feet downstream of the dam and are joined by 8-foot diameter steel penstocks at each unit. Flows in excess of the turbines' capacity are discharged through a sluiceway on the southern end of the dam, which is controlled by a manually operated wooden vertical lift gate.

A second dam, known as the Memorial Street Dam (Water Resources Board Number 87.08) is owned by FICI, the rights to which were formerly held by FEL&P and were the subject of their applications, is located approximately 800 feet downstream of Stevens Mill Dam. The Memorial Street Dam is currently the subject of a breach order from the New Hampshire Water Resources Board (WRB) and is undergoing dismantling.

Approximately 3000 feet further downstream around the bend in the river is the third dam, the Franklin Falls Hydro Dam, (WRB No. 87.09), which is currently operated as a hydropower project. The crest of this dam is reported to be 281.45 feet (USGS) and will establish the tail water elevation for the Stevens Mill Dam Project. The gross head available between dams WRB No. 87.07 and WRB No. 87.09 is 34 feet.

* the new penstock will run through

The revised project envisions the utilization of the Stevens Mill Dam, * the existing power house on the south side of the Winnepesaukee River, renovation of the intake structure and head works, extension of the penstock southerly along the Winnepesaukee River approximately 740 feet to point just above the Memorial Street Dam and then join an existing penstock which serviced generating facilities located in the River Bend Mill, formerly owned and operated by Public Service Company of New Hampshire and the Franklin Electric Light and Power Company. The existing powerhouse would be renovated to facilitate the new generating equipment. The route of the penstock and location of the generation facilities are shown in Exhibit B.

Power generated by the facility will be transmitted to the Public Service Company of New Hampshire distribution system by means of a radial tap into line 337, a 34.5 kv distribution/transmission circuit tying the Webster Substation with the Laconia Substation. A preliminary schematic of the existing arrangement and proposed connection is shown in the one-line diagram (Figure A-1).

A.2 - Generating Units

The existing facilities consist of two generating plants; the Bow Street plant located on the northerly side of the Winnepesaukee River has a rated capacity of 340 kilowatts (KW) and the Stevens Mill plant located on the southerly side of the river has a rated capacity of 250 KW. The proposed redevelopment project envisions the retention and rehabilitation of the Bow Street plant and the removal of the existing Stevens Mill plant and replacement with a larger facility located in the River Bend Mill powerhouse, some 350 feet downstream. The new plant will utilize a net head of 30 feet, a maximum rated discharge of 700 cubic feet per second (cfs) and have a rated capacity of 1600 KW. Details of the existing and proposed generating units are shown in Table A-1.

A.3 - Turbines

A description of the turbines is listed in Table A-1.

A.4 - Plant Operation

The proposed scheme of operation will be run-of-river. The flow of the Winnepesaukee River is well regulated, and the flow duration curve and characteristics are described below. A minimum flow of 100 cfs will be maintained between the WRB No. 87.07 Dam and the powerhouse discharges to

accommodate biological, esthetic and other considerations. The operational mode is proposed as follows:

up to 240 cfs	-	All flow thru existing Unit I
240 to 800 cfs	-	100 cfs thru existing Unit I; Remainder split between new Units II & III
800 to 1000 cfs	-	700 cfs thru new Units II & III/ Remainder thru existing Unit I (all flows above 1000 cfs wasted)

A.5 - Flow Duration

The site was previously identified as being located three miles downstream of the USGS gage 01081000 at Tilton. The flows at this gage are considered representative of flows expected at the Stevens Mill site. The average flow at the Tilton gage is approximately 690 cfs, the regulated low flow is 250 cfs and a minimum flow of 200 cfs is experienced. A flow duration curve was developed from the USGS WATSTORE data for the Tilton gage and is shown as Figure A-2.

A.6 - Project Data

Revised estimates of project generation, heads, flows and capacities are shown in Table A-1.

A.7 - Construction Schedule

The revised construction schedule envisions the initiation of construction activity in the late spring of 1983, with commissioning planned in early 1984. The operation of the existing Bow Street plant will continue through the construction period, with a rehabilitation shut down anticipated during the late summer - fall of 1984, during the seasonal low flow period.

A.8 - Dam Modification

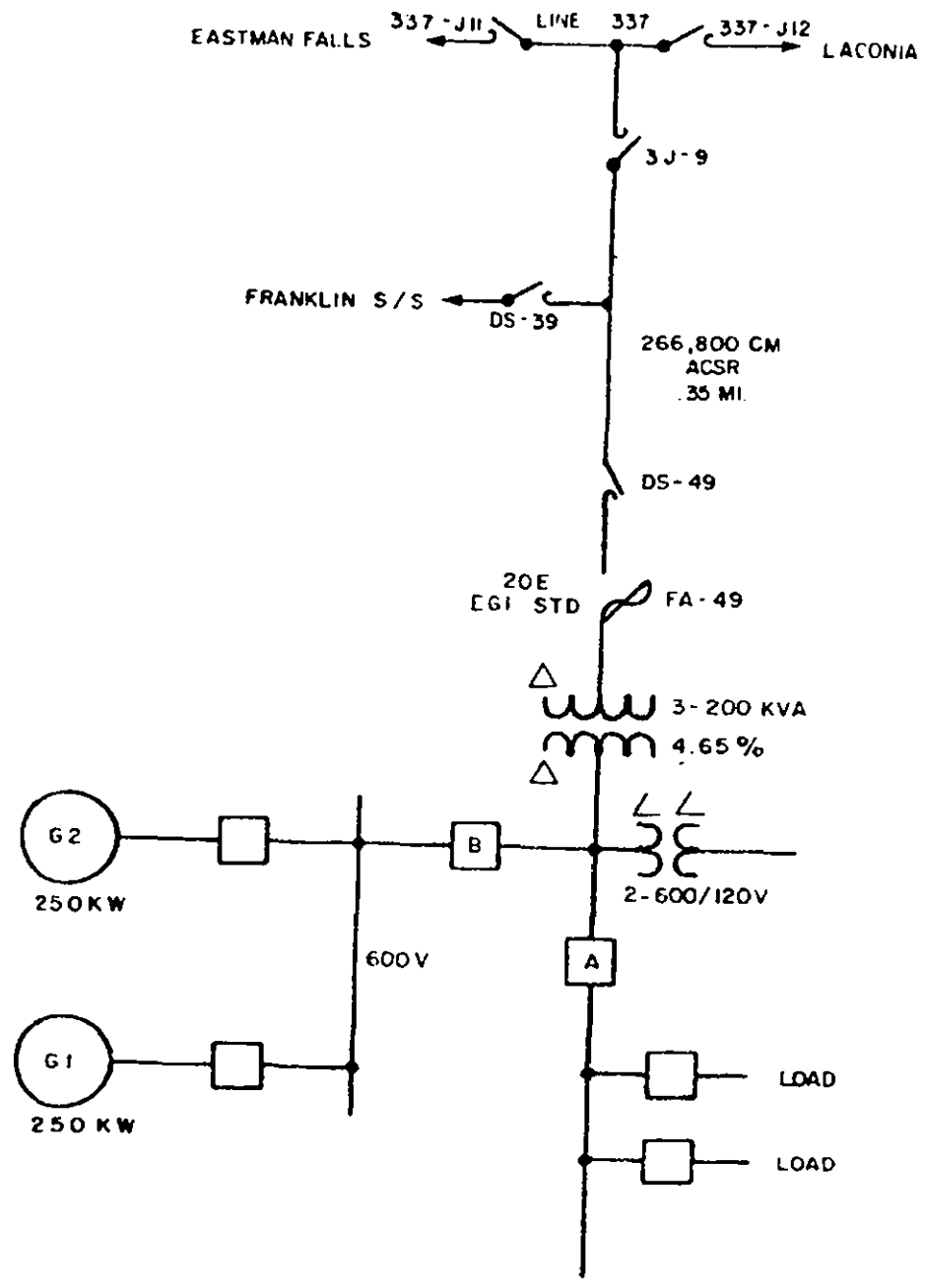
No major repairs, reconstruction or modifications are proposed to the Stevens Mill Dam (WRB No. 87.07), other than those required to accommodate the construction of a new intake structure for the new project and the installation of a new gate to facilitate the passage of high flows. Minor repairs to the intake to the Bow Street plant have recently been accomplished and some further work is contemplated.

Memorial Street Dam is currently breached and will be dismantled during the course of this project, as ordered by the New Hampshire Water Resources Board.

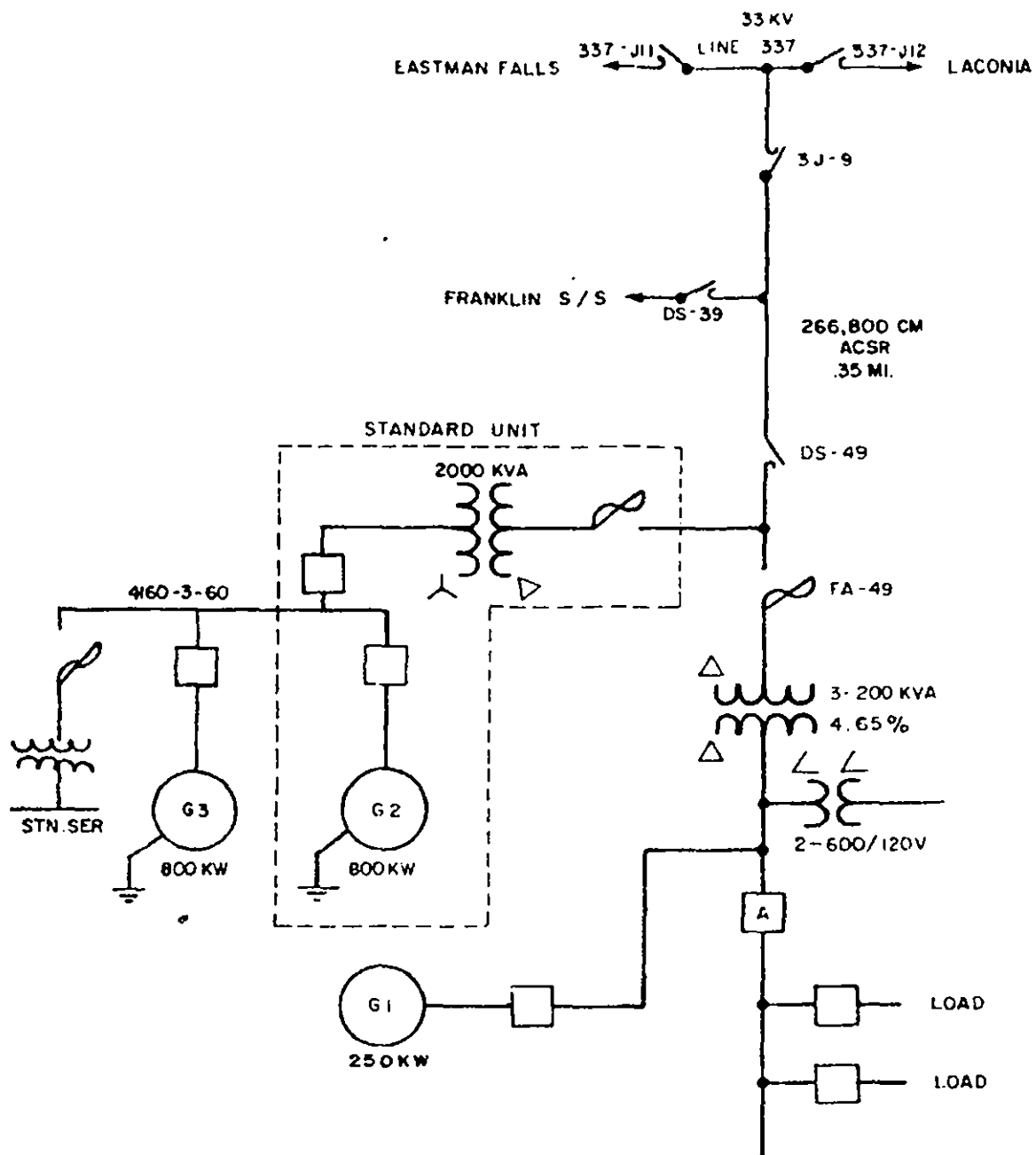
TABLE A-1

PRELIMINARY TURBINE AND GENERATOR DATA

<u>General Data</u>	<u>Existing Bow Street Plant</u>	<u>Proposed Plant</u>
Plant Flow	300 cfs	700 cfs
Plant Capacity	340 KW	1600 KW
Type of Unit	Horizontal Francis	Horizontal Tube Type
Number of Units	1	2
 <u>Turbine Data</u>	 <u>Unit I</u>	 <u>Units II & III</u>
Type	Horizontal Francis	Horizontal Tube Type
Net Head	14 feet	30 feet
Rated Output (at rated net head)	340 KW	2 at 800 KW
Rated Discharge	300 cfs	350 cfs each
Operating Speed	90 RPM	360 RPM
 <u>Generator Data</u>	 <u>Bow Street Plant (existing Unit I)</u>	 <u>Proposed Plant Units II & III</u>
Type	Horizontal Shaft	Horizontal
Rated Capacity	340 KW	800 KW each
Power Factor	90%	90%
Phase/Voltage/Frequency	3/600/60	3/4160/60
Synchronosis Speed	450 RPM	360 RPM
 <u>Generation Data</u>		
Annual Generation	1.0 gWh	8.0 gWh
 <u>Impoundment Data</u>		
Area	1 acre (total)	
Maximum Surface Elevation (normal)	3.15.28 USGS	
TOTAL RATED CAPACITY	1940 KW	
AVERAGE ANNUAL GENERATION	9.0 gWh	



EXISTING ARRANGEMENT

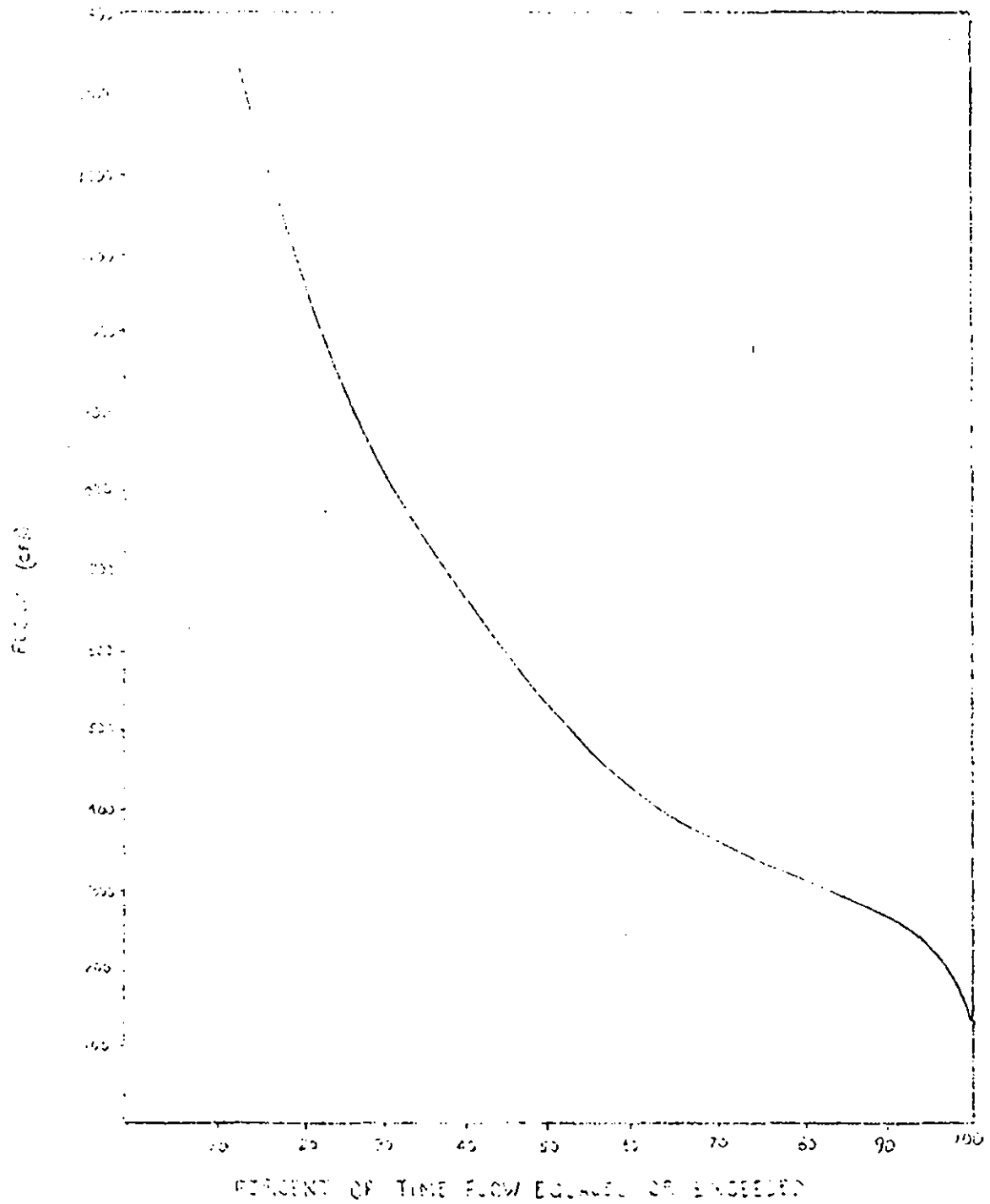


PROPOSED ARRANGEMENT
WITH CIRCUIT BREAKER 'B' REMOVED

REVISED 1 MAR 83

FIGURE A-1 SINGLE LINE DIAGRAM

FRANKLIN INDUSTRIAL COMPLEX INC.
STEVENS MILL DAM PROJECT



W. W. RESERVOIR RIVER
FLOW DURATION CURVE
FIC1 FRANKLIN, NH

DATE 1/1/83

EXHIBITS

B	General Location Map
B-1	USGS Base Location Map
B-2	Real Property Interests Map
G	Arrangement Drawings
G-1	Project Plan
G-2	Plan, Section and Elevation of Stevens Mill Dam
G-3	Powerhouse Plan and Section

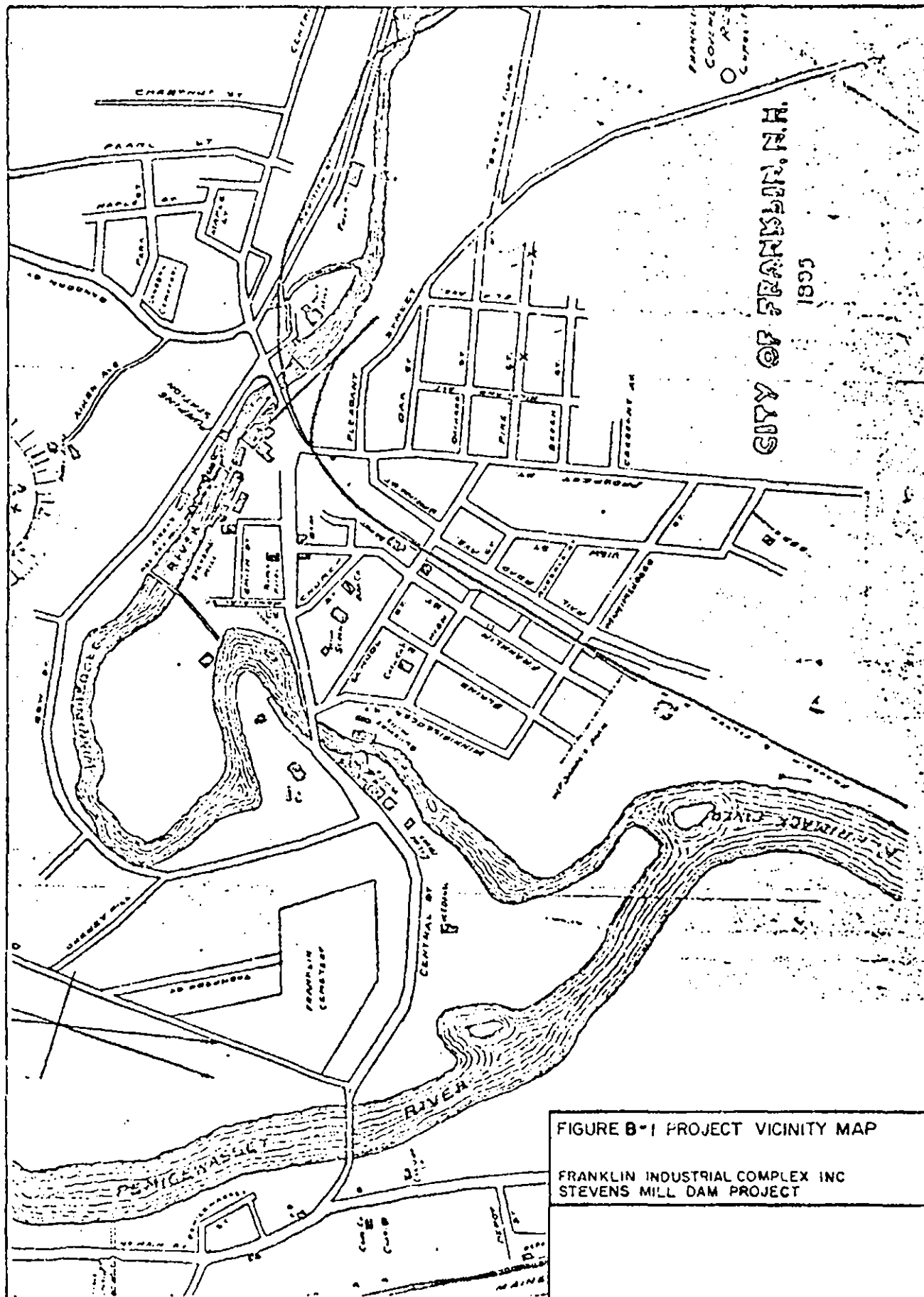


FIGURE B-1 PROJECT VICINITY MAP

FRANKLIN INDUSTRIAL COMPLEX INC
STEVENS MILL DAM PROJECT

EXHIBIT E
ENVIRONMENTAL REPORT

EXHIBIT E - ENVIRONMENTAL REPORT

E.1 - Environmental Setting

E.1.1 - Fish, Wildlife and Plant Life

The Winnepesaukee River is stocked by the New Hampshire Fish and Game Department with rainbow trout and brown trout and represents a good put and take trout fishery. The summer temperatures (Table E-1) are approaching the upper limit for brook trout, and therefore, the river appears to be more suitable for brown trout and rainbow trout. However, the Winnepesaukee also has an excellent bass fishery and established white perch population (Table E-2). These fish, as well as others listed in the table, would compete with the trout for forage. Therefore, the chances of management of a trout fishery through natural reproduction are slim (N.H. Fish and Game Report, 1974).

Land-locked salmon found in the Winnepesaukee River occasionally migrate downstream from lakes Winnepesaukee and Winnisquam. This fishery is sustained partly by natural reproduction but mainly by stocking (personal communication with the N.H. Fish and Game). Recent upgrading of sewage facilities has aided in the development of this lake fishery. Eventually, as more communities are tied into the regional waste treatment facility, the water quality of the Winnepesaukee River will improve. The sport fishery of the Winnepesaukee can be expected to increase with the improvement in water quality.

The N.H. Fish and Game Department, the U.S. Fish and Wildlife Service and other federal and state agencies have been working together to develop and implement a program to restore the runs of salmon and shad to the Merrimack River. Historically, salmon have used the Pemigewasset River and shad have used the

Winnepesaukee River. Therefore, future planning could include the restoration of shad runs to the Winnepesaukee River.

The applicant has consulted with the U.S. Fish and Wildlife Service and the N.H. Fish and Game Department about the project and its effect on the fishery resources of the Winnepesaukee River. Although the applicant's project will alter the flow of water downstream for a short distance (see Exhibit B), a minimum flow of 100 cfs will be maintained throughout this section or else the outflow will equal the inflow until a flow of 240 cfs is reached. When a flow of 240 cfs is reached, then 200 cfs would be diverted through the new unit. Based on the size of the watershed, an Aquatic Base Flow (ABF) of 243 cfs would be required. The ABF or run of the river flow will be maintained at all times below the tailrace of the new unit because there are no facilities in this project that allow for the impoundment of water. Consideration will be given to the possible location of fishways should future development of the anadromous fishery program demonstrate their need. If this need is demonstrated, fish passage facilities will be constructed if petitioned by a federal or state fish or wildlife agency.

The flow of the Winnepesaukee is controlled by the N.H. Department of Water Resources. The regulated low flow is maintained at or near 250 cfs with the minimum flow being 200 cfs. The project will not alter the flow downstream of N.H. Dam 87.09, therefore, maintaining downstream flows to protect resources and habitat.

The setting of the project is urban and it is industrially zoned. The habitats necessary for wildlife are not present. The majority of the stream bank in the project area is comprised of buildings (former M.T. Stevens Mills) with the remainder parking areas. Vegetation is minimal with a few sparse grassy areas.

The vegetation in the area will most probably improve with landscaping associated with the project.

The Applicant will remain in contact with the state and federal fish and wildlife agencies to insure that no problem areas arise. It is the Applicant's intent to protect the present resources and to develop a project that is harmonious with the wildlife and fishery habitats of the Winnepesaukee River.

E.1.2 - Visual Environment

The project will utilize the present powerhouse located within the River Bend Mill. (Figure B-2). The applicant has discussed the project with the N.H. Historic Preservation Office and will continue to do so as the design for the facilities are prepared.

E.1.3 - Endangered Species

The project will not adversely affect any endangered plant, mammal, bird or fish species.

E.1.4 - Historical and Archeological Sites

The Applicant's project is part of the old J.P. Stevens Mill, an industrial complex in Franklin, N.H. However, the project will not alter that facility or any other site of historical significance. As mentioned previously, the Applicant has been in contact with the N.H. Historic Preservation Office.

E.1.5 - Recreational Opportunities

The Applicant's project will not offer any recreational opportunities nor will it alter any existing ones. This section of the Winnepesaukee River flows between buildings on both banks. The remainder of the shoreline in the project area is made up of

fenced from the river, thus, eliminating public access in this area. This section of the river will be out of the influence of the project.

E.1.6 - Water Quality

The Winnepesaukee River is classified as Class B waters under the November 1976 New Hampshire Water Quality Standards. However, the river receives municipal sewage from population centers upstream of the project. This contributes some undesirable pollutants to the river. A regional waste treatment facility has been built and it will eventually receive the waste effluents from the upstream communities. The discharge from the treatment plant will not go into the Winnepesaukee River. When all of the communities are connected to the plant, the sources of pollution will be eliminated.

The Applicant's project will not affect the water quality of the Winnepesaukee. Appropriate measures will be taken during project construction to minimize damage to habitat and resources. The Applicant has contacted the N.H. Water Supply and Pollution Control Commission concerning the project.

E.2 - Environmental Impact

There are no environmental impacts expected from the construction and operation of this project. Although the proposed capacity of 1540 kW is an increase over the existing hydroelectric capacity, the plant is still a run of river operation. As noted in Exhibit A, in all reaches of the river downstream of Dam 87.07, a flow of at least 100 cfs will be maintained at all times. Downstream of the plant discharge, the Aquatic Base Flow or the upstream run of river flow will always be maintained. During construction, all base river flows will be maintained in all river reaches in the vicinity of the project. Due care

will be taken to prevent siltation and resuspension of sediment in the river during construction. In accordance with Section 404 of the Federal Clean Water Act, an application for a Dredge and Fill Permit will be filed with the U.S. Army Corps of Engineers.

The project as conceived will not impact the environment of the Winnepesaukee River or the surrounding area. It will not have any long-term effect on water quality or habitat or will it cause any irretrievable commitment of any resource.

Pursuant to the Commission's rules, the Applicant has consulted with the following federal and state agencies in the preparation of this report:

Department of Resources and Economic Development
State Historic Office
Christian Mutual Building
Bridge Street
Concord, New Hampshire 03301

Applicant will receive a joint reply from the State Historic Office, Parks and Recreation, and Forest and Lands. The Historic Preservation Office asked about changes to existing structures and bank stability. The project was described including the approximate location of the new powerhouse.

Contact: Mr. Garm Hume

N.H. Fish and Game Department
34 Bridge Street
Concord, New Hampshire 03301

Applicant explained the project, including flow changes between Dams 87.07 and 87.09. Discussions included the fishery resources of the Winnepesaukee River and the development of the anadromous fishery of the Merrimack River.

Contact: Charles F. Thoits, Chief; George Morrision; Steven Virgin, and Jon Greenwood

U.S. Fish and Wildlife Service
P.O. Box 1518
55 Pleasant Street
Concord, New Hampshire 03301

The project was described including a brief discussion of the stream flows and the development plan. A project description including flow conditions, location, proposed operation, and plant outputs was delivered during this meeting.

Department of Water Resources, N.H.
23 Pleasant Street
Concord, New Hampshire 03301

Applicant was given the necessary forms for applying for a permit for construction or reconstruction at an existing dam.

Contact: Mr. Gary Kerr

Water Supply and Pollution Control Commission
105 Loudon Road
P.O. Box 95
Concord, New Hampshire

Applicant was given the necessary forms for applying for a permit for work relating to filling, dredging, or construction under the provisions of RSA Chapters 483-a and 149:8a. Applicant also discussed the project with Permits and Surveillance.

Contact: Terrence Frost and Steven Roberts.

District Engineer
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA 12154

In addition to personal contact and meetings with the first four of the listed agencies, the enclosed letters and project descriptions were either hand delivered or mailed to all of the listed agencies. Also included are the replies received to date from the agencies contacted. As required by Section 4.107(a)(3) the written reply from the U.S. Fish and Wildlife is included.

TABLE E-1WATER TEMPERATURES OF THE WINNIPESAUKEE RIVER
(DEGREES FAHRENHEIT)

AUGUST 16-22, 1974

Tilton, New Hampshire

	Minimum	Maximum
August 16	63.0	72.0
17	64.0	70.0
18	65.0	72.5
19	65.0	73.0
20	65.0	74.5
21	66.5	74.0
22	67.0	74.5

From N.H. Fish and Game Report: Winnipiesaukee River Evaluation for
Quality Trout Management.

TABLE 3-2

FISH COMPOSITION FROM THE WINNIPESAUKEE RIVER

AUGUST 16-22, 1974

	<u>No. Caught</u>	<u>Avg. Wt.Lb.</u>	<u>Size Range In.</u>
White Perch	55	.40	6.5 - 10.4
Smallmouth Bass	22	.90	6.0 - 16.9
Rosebreast Sunfish	15	.23	3.0 - 7.9
C. White Sucker	13	2.45	16.5 - 18.9
E. Chain Pickerel	4	1.19	15.5 - 18.8
Largemouth Bass	2	.25	7.0 - 7.9
Yellow Bullhead	2	.37	6.0 - 6.9
Brown Bullhead	1	.35	
Yellow Perch	1	.15	
Folfish	1	--	

From N.H. Fish and Game Report: Winnipeasukee River Evaluation for
Quality Trout Management.

Franklin Industrial Complex Inc.

Project Description and Proposed Mode of Operation

The proposed project is located on the Winnepesaukee River within the City of Franklin, New Hampshire (see attached sketch). The project is approximately one mile upstream of the confluence of the Winnepesaukee and Pemigewasset Rivers and about three miles downstream of USGS gage No. 01081000 at Tilton. The drainage basin area at this gage is about 471 square miles. Located upstream of the gage, Lake Winnepesaukee commands a drainage basin area of 363 square miles. Since the outflows from the lake are regulated, the available flow at the project site is relatively constant.

Two generating units presently exist at the project site. These units have rated capacities of 250 kw and 340 kw at net heads of 12 and 14 feet respectively and a rated discharge of 300 cfs each.

The proposed project consists of renovating the existing 340 kw unit to optimum efficiency and replacing the 250 kw unit with two new tube type 800 kw units located downstream approximately 1000 feet at a renovated powerhouse in the RiverBend Mill. The new units would have a net head of 30 feet and a rated discharge of 350 cfs each. The total project would provide an environmentally sound, economical development of energy production at this project site.

Dams - Dam 87.07, commonly called the Stevens Mills Dam, is located on the Winnepesaukee River in the City of Franklin, New Hampshire. This structure is a concrete gravity dam about 22 feet high with a crest elevation of 312.55 feet (USGS). The dam is equipped with 3-foot high wooden flashboards providing a crest elevation of 315.28 feet (USGS). The Stevens Dam was inspected by the New Hampshire Water Resources Board as a part of the U.S. Army Corps of Engineers Inventory of Dams in June, 1980. The dam is in excellent condition and has been classified as not being a hazard to downstream interests. The impoundment created by the dam covers about an acre and the level is maintained at about 315 feet (USGS). There is a manually operated wooden vertical lift gate on the dam to release flows in excess of the hydraulic capacity of the two existing turbines which are located approximately 75 feet downstream of the dam.

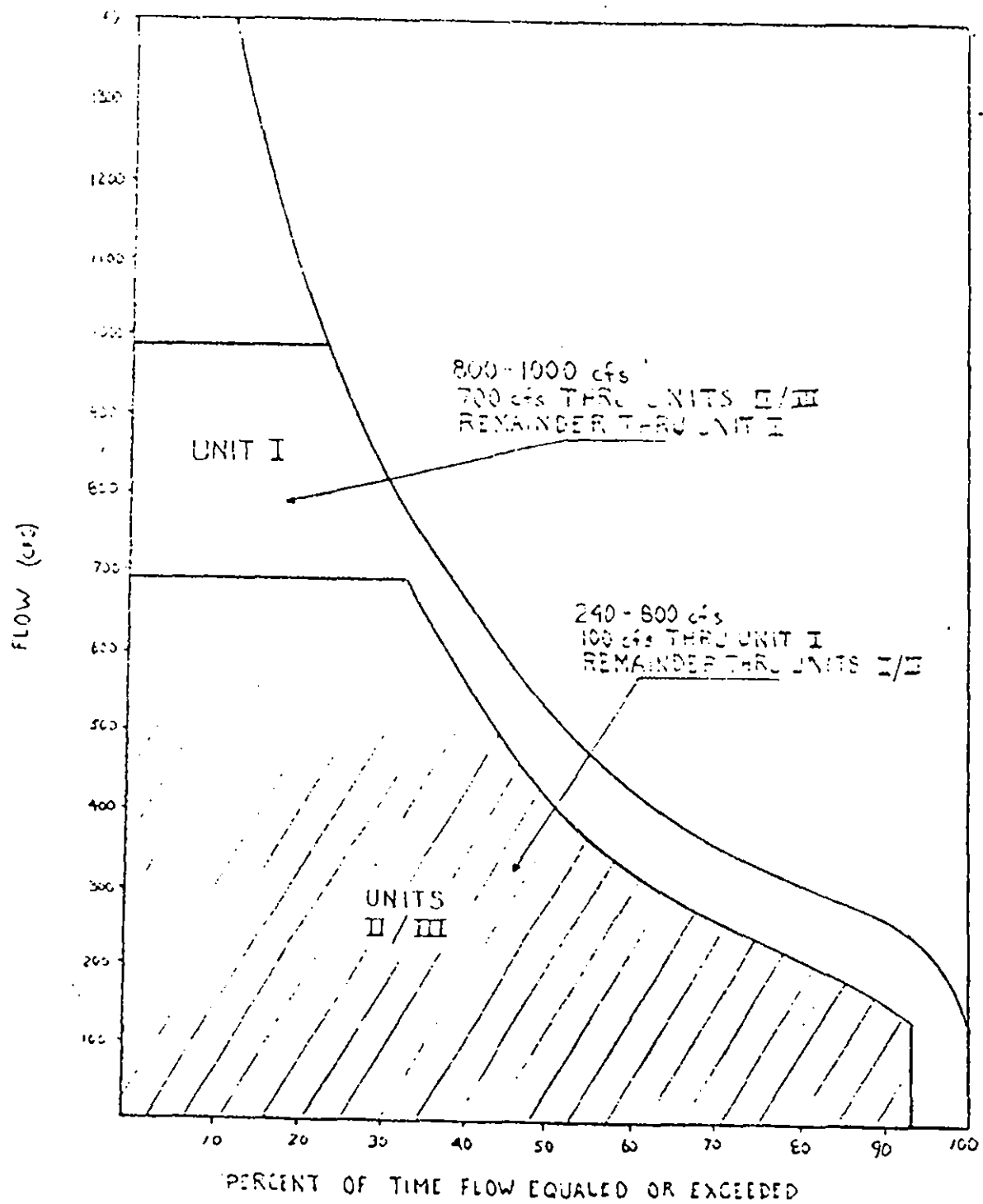
Intakes and Penstocks - At the site there are presently two intakes and two 75 foot long, 8 foot diameter penstocks, one for Unit I and a second for Unit II. In the proposed scheme, Unit II would be removed and Penstock II would be extended to carry water to the new units downstream. If necessary, the existing penstock would be replaced. The proposed tailrace of the new units would be the former FEL&P tailrace. This would provide a gross head of approximately 34 feet for the new units.

Powerhouse - The proposed units would be located in a renovated powerhouse. Minor channel improvements are expected to be made to insure proper operation of the units and for the prevention of scouring of the riverbed sediment.

Flow Conditions - The average flow of the Winnepesaukee River in the vicinity of Stevens Mills is approximately 690 cfs. Upstream, this flow is regulated by Lake Winnepesaukee which is operated by the New Hampshire Water Resources Board. The regulated low flow is maintained at or near 250 cfs with the minimum flow being 200 cfs. This regulation provides a relatively constant supply of water to the project.

Proposed Operation - The objective of the proposed operation is to maximize generation at the new, more efficient units, and provide for a minimum low flow of 100 cfs to satisfy environmental needs downstream of Dam 87.07. It is proposed to replace Unit II with units having a hydraulic capacity of 700 cfs. The following operation involving the combination of the existing Unit I and the new Units II & III is envisaged. The minimum generating flow through Unit I is 100 cfs and through the new units is expected to be approximately 70 cfs. Thus, for river flows up to 240 cfs, all flow would be directed through Unit I. For flows 240 cfs and greater, 100 cfs would be run through Unit I and the remainder would be diverted to the new units. This would maintain a flow of 100 cfs downstream of 87.07. When the hydraulic capacity of Units II & III is exceeded, the excess water would be diverted through Unit I in addition to the 100 cfs up to a maximum flow of 300 cfs. An annotated flow duration curve indicating this operation is shown in the attached figure. On the curve, the shaded area indicates the flow anticipated through Unit I and available for the entire downstream reach. The unshaded area under the curve indicates the anticipated flows through the new Units II & III.

Installed Capacity and Plant Outputs - The proposed Units II & III installed capacity is 1600 kw at a net head of 30 feet and a rated discharge of 700 cfs. This project will make efficient use of the available water for energy production while continuing to supply adequate downstream flows to maintain conditions in all reaches of the river.



WINNIPESAUKEE RIVER
FLOW DURATION CURVE
FIG 1 FRANKLIN, NH

1. 100' 100'

320
310
300
290
280

HEAVY WATER

EL. 315.23

STEWENS MILLS
DAM

DAM 37.07

EL. 292.7

BOW STREET DAM
(10' BE RELEASED)

DAM 37.03

EL. 287.93

FRANKLIN FALLS
HYDRO DAM

DAM 37.02

HEAVY WATER

NOTE:

ALL DAM CREST ELEVATIONS INCLUDE FLASHBOARDS

EXHIBIT E
ENVIRONMENTAL REPORT
AND
LOW FLOW EVALUATION

STEVENS MILLS HYDROELECTRIC PROJECT
LOW FLOW EVALUATION

by

ROY F. WESTON, INC.
2 CHENILL DRIVE
CONCORD, NEW HAMPSHIRE 03301

and

NATURAL RESOURCE CONSULTING SERVICES
167 SOUTH STREET
CONCORD, NEW HAMPSHIRE 03301

Revised
February 1983

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3	STEVENS MILLS TRANSECT LOCATIONS	4
4	WINNIPESAUKEE RIVER, TRANSECT T1, NEAR STEVENS MILL DAM	5
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EXECUTIVE SUMMARY

This report presents the findings of hydrological and biological studies performed to evaluate the effects of bypassing a portion of the normal flow of the Winnepesaukee River in Franklin, New Hampshire as a result of the development of hydroelectric facilities at the Stevens Mills Complex. The purpose of this report is to evaluate the effects of a minimum discharge of 100 cfs at the Stevens Mills Hydroelectric Project in Franklin, N.H. The flow corresponds to the approximate minimum operating level of the site's turbines.

The hydroelectric facilities will consist of three generating units, Unit I (existing) on the west bank of the river and Units II and III (proposed) on the east bank consisting of an intake at Stevens Mills Dam, a penstock and a rehabilitated powerhouse located in the RiverBend Mill. Approximately 5800 feet of river would be bypassed under the proposed scheme, of which about 5000-feet is presently impounded by the Memorial Street and Franklin Falls Hydro Dams.

The studies focused on the effect of the proposed flow diversions on the non-salmonid fish and invertebrate species currently found in the river. Transects and other studies were made at the site in May, 1982. The effects of maintaining a minimum flow of 100 cubic feet per second throughout the bypassed section of the river were examined. The potential release of 100 cfs was found to have little aesthetic or biological impacts. The primary findings and conclusions of a 100 cfs minimum flow are:

- Basic character of the river (wide and shallow with little shading) will remain unchanged and non-salmonid fishery will not be overstressed by reduction in flows.
- Water depths in the impounded or pooled areas will not significantly change. Water depths in the riffle or rapid areas will decrease slightly below normal mid-summer low flow periods. Small pools in eddies behind boulders in the river will remain several feet deep and connecting riffles for fish passage will decrease to 3 to 8 inches.

- Aesthetic appearance of the river and impounded areas, particularly upstream of the Franklin Falls Hydro Dam will largely remain unchanged.
- Operation of the hydroelectric facilities will be such that for at least thirty-five percent of the time the bypassed reach will experience flows of between 100 and 300 cubic feet per second. Additionally, the flow will exceed 300 cubic feet per second approximately 32 percent of the time during high flow periods.

This study was performed by a team consisting of a Certified Wildlife Biologist, a Certified Environmental Planner, a fisheries biologist and civil-hydraulic engineers and it was conducted with the cooperation of the City of Franklin, New Hampshire Water Resources Board, New Hampshire Fish and Game Department and the United States Fish and Wildlife Service.

1.0 INTRODUCTION

This report is prepared by biologists and environmental specialists from Natural Resource Consulting Services and Roy F. Weston, Inc. Members of the study team directly involved in this investigation included a Certified Wildlife Biologist (The Wildlife Society) and a Certified Environmental Planner (National Association of Environmental Professionals) and Professional Engineers with specialties in civil-hydraulic engineering. The conclusions in this report consist of professional value judgements based on several site visits in May, 1982.

Several site visits were made to perform limited quantitative sampling and to make general observations. Sample sizes of all data collected are not statistically significant. Data gathered are indicative of generalized trends and are not meant to refer to absolutes.

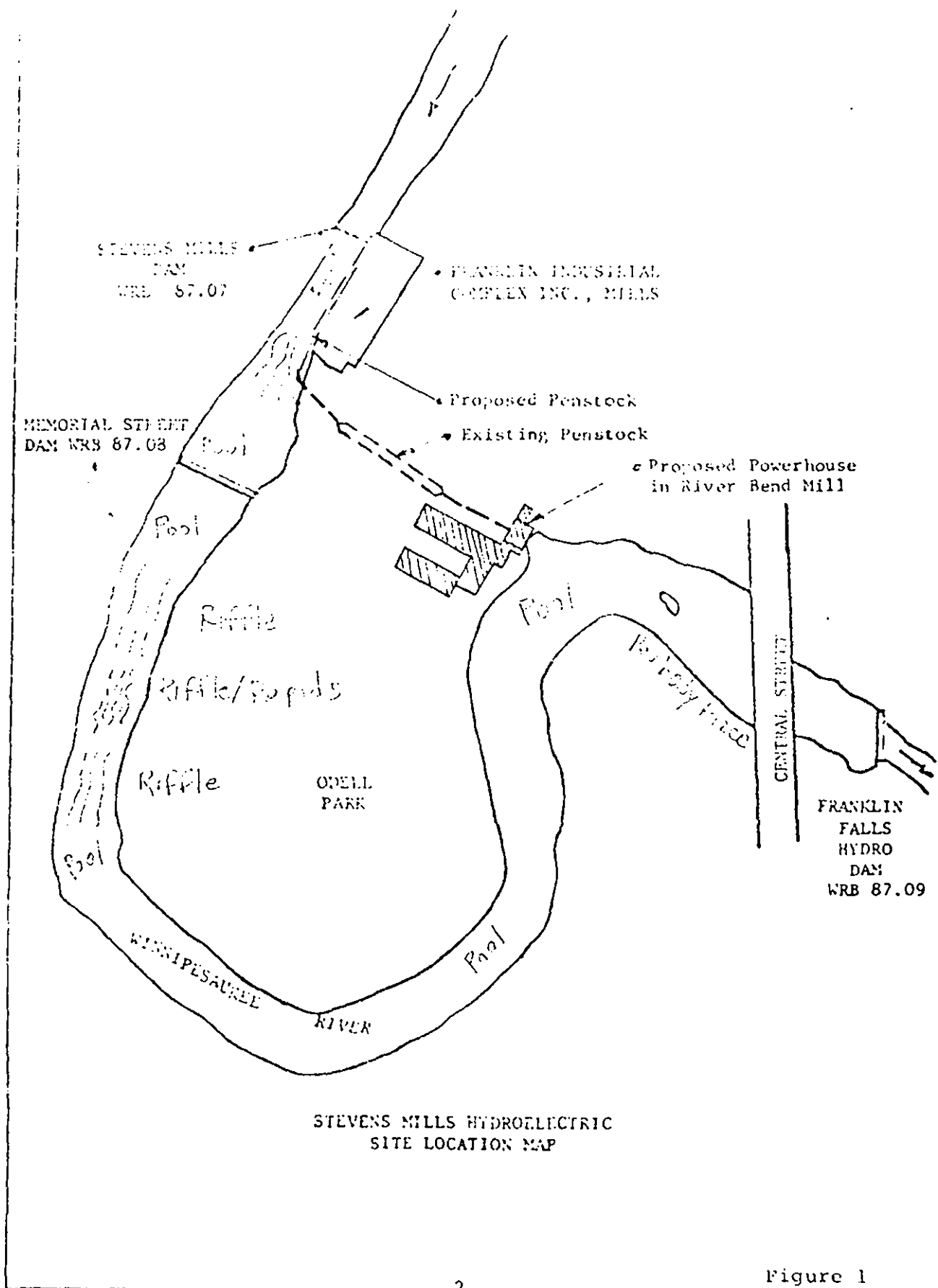
The purpose of the report is to delineate and evaluate the effects of a minimum discharge of 100 cfs for the Stevens Mills Hydroelectric Project on the Winnepesaukee River in Franklin, NH. Briefly, the project envisions a diversion above the Stevens Mills Dam to the ponded reach of the river adjacent to the RiverBend Mill. Figure 1 shows the project location.

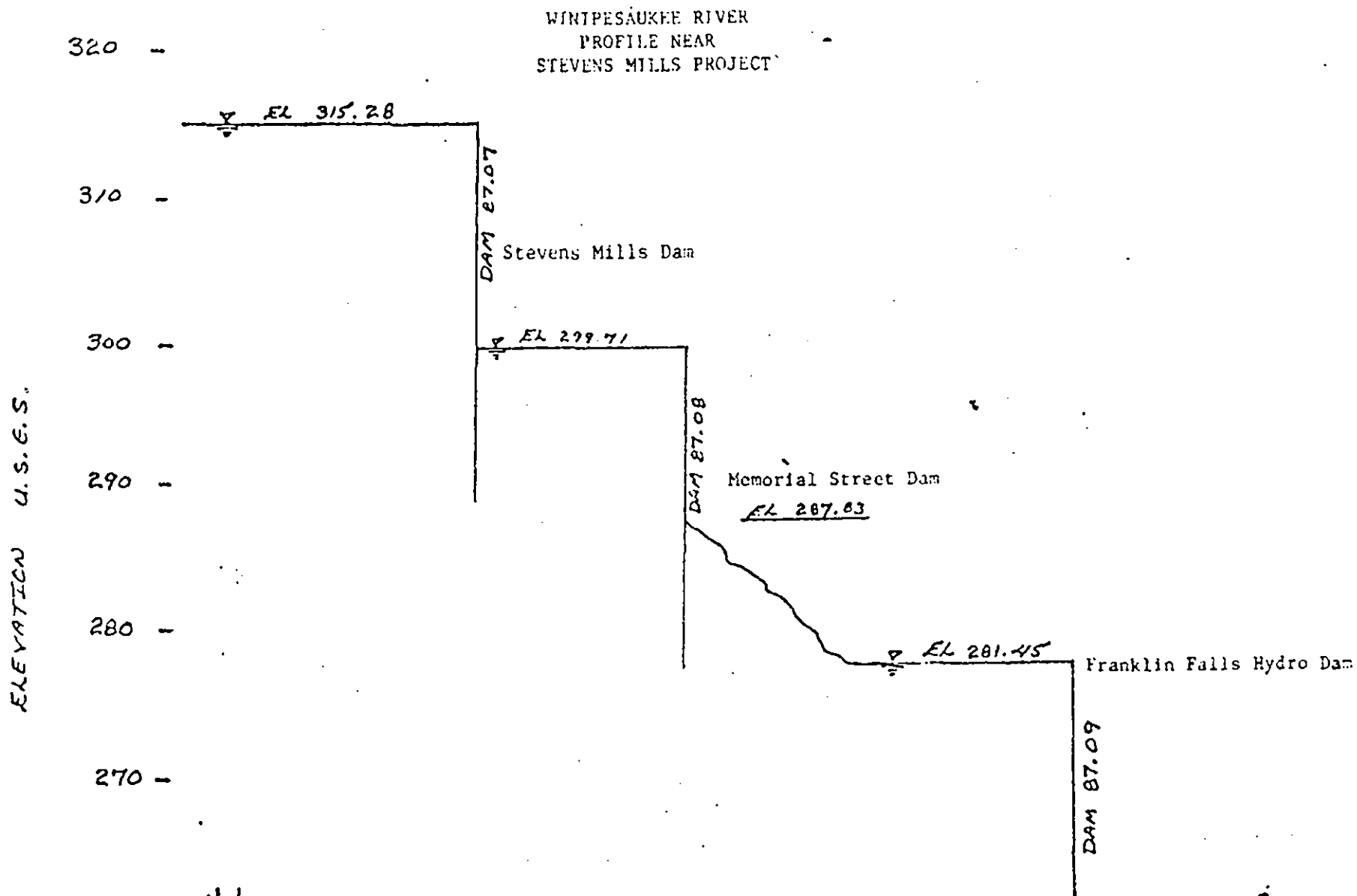
The report is organized in four major sections. The first is an inventory of the existing stream ecosystem (2.0). The second is a rationale for establishing the minimum flow recommendation for the site (3.0); section 4.0 gives the anticipated impacts and their mitigation and section 5.0 lists the literature cited in the text.

2.0 ENVIRONMENTAL INVENTORY

Land Use

The land use at Memorial Street and Stevens Mills Dams consists of renovated old brick mills. Downstream on the south of the river there is a city park (Odell) with ball fields and related recreational opportunities. Access to the river from the park is prohibited by a chainlink fence. The north side of the river in the same area is a narrow strip of undeveloped hardwood forest backed by a residential street.





Note:

All Dam crest elevations include flashboards

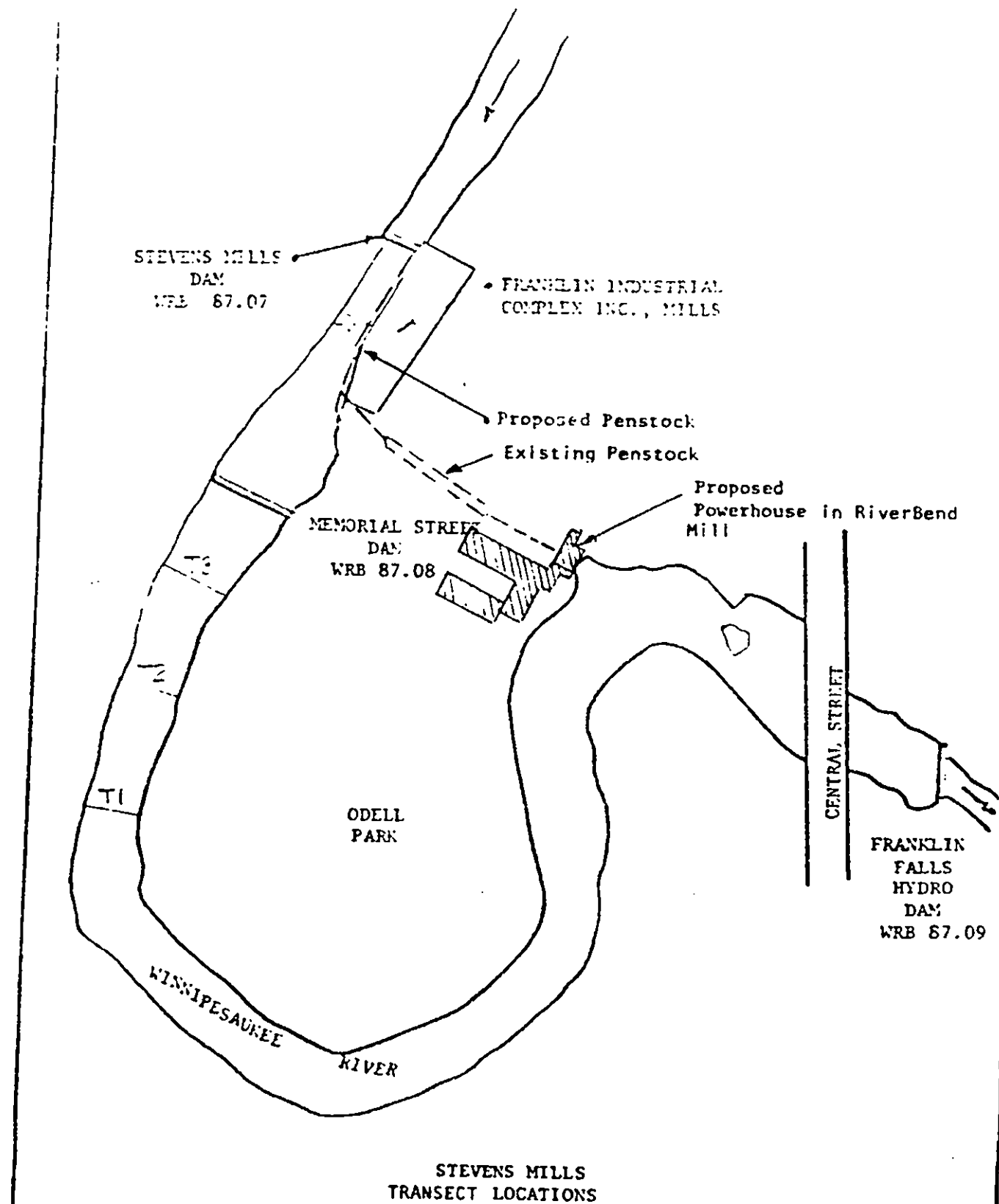
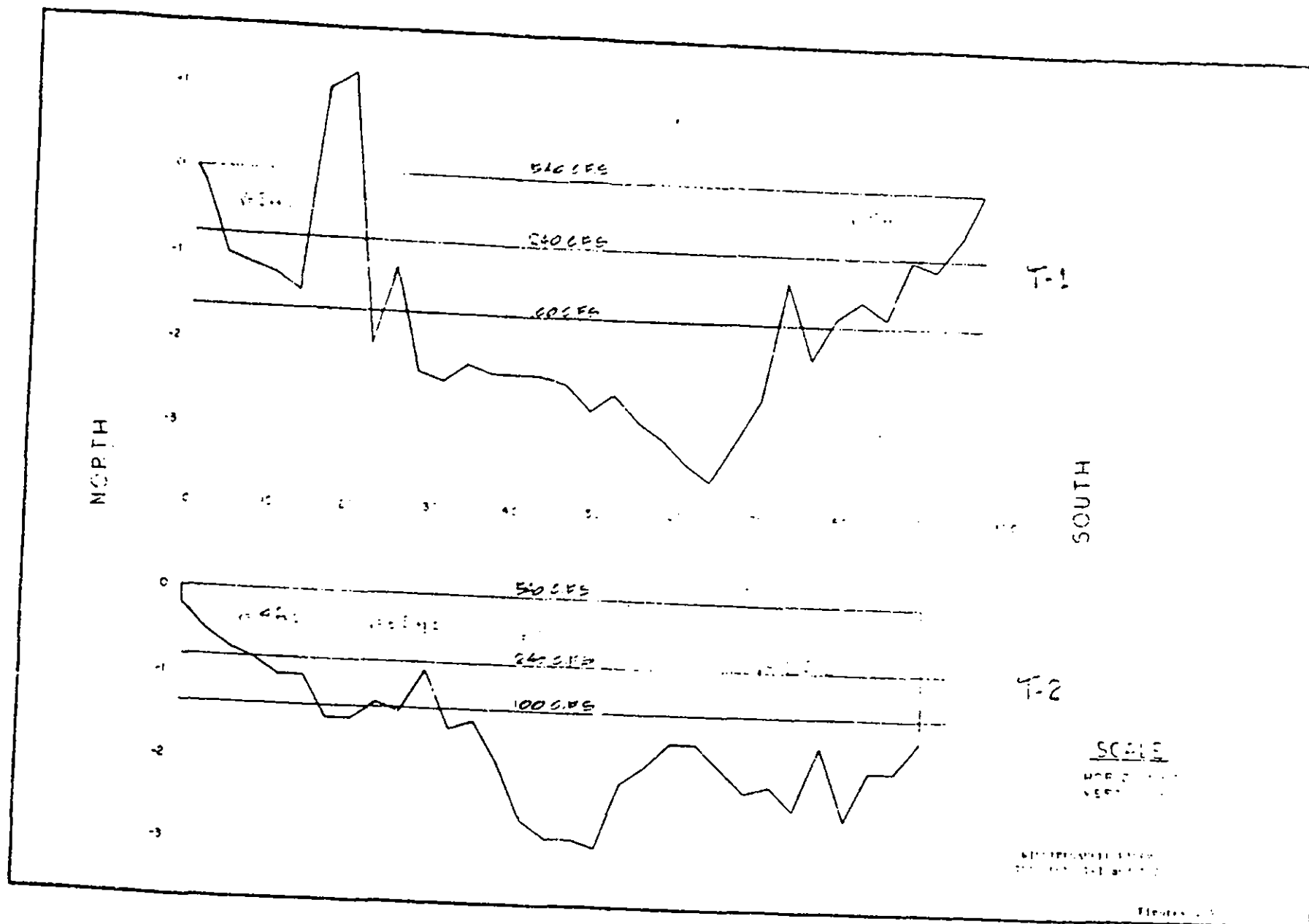
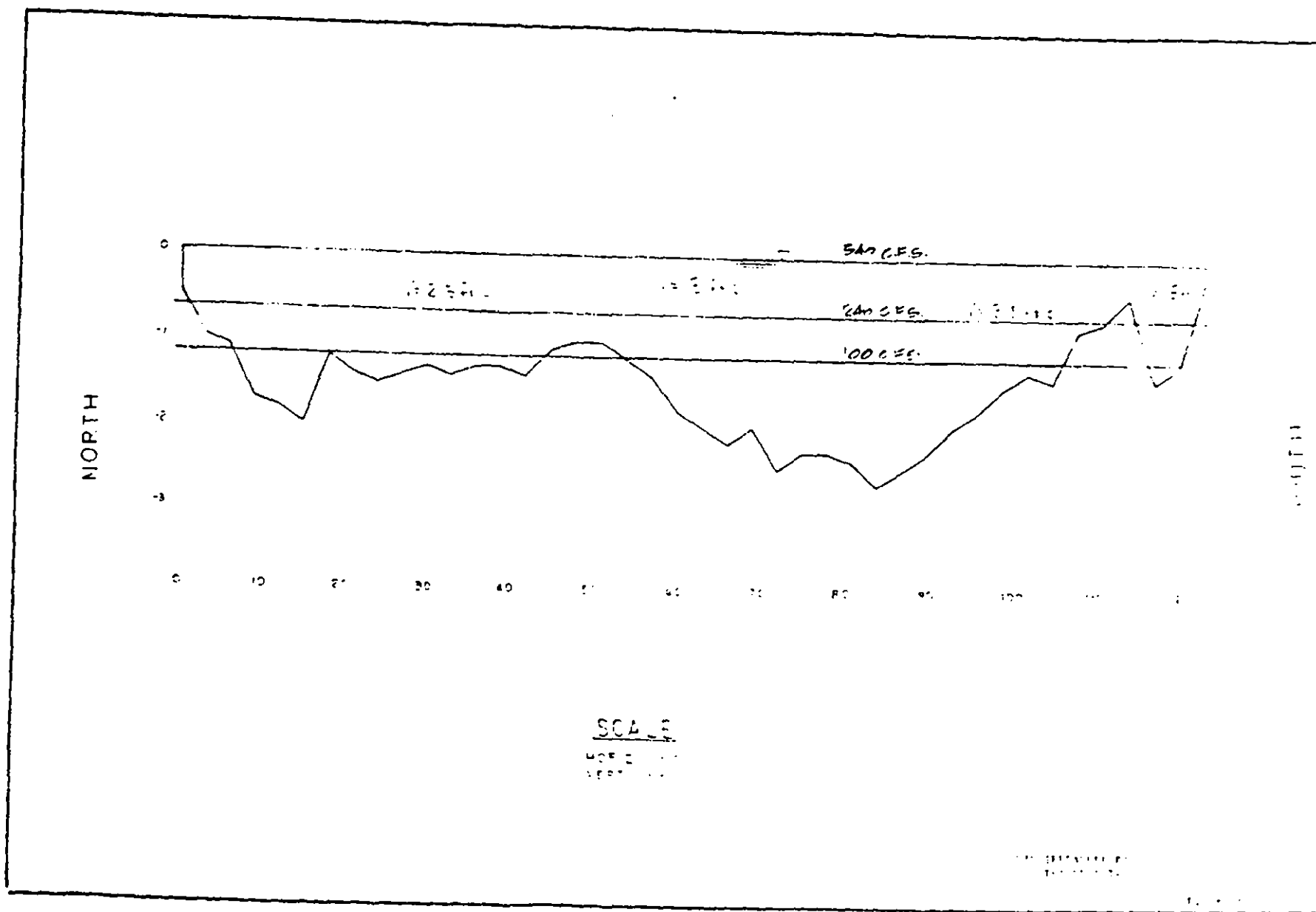
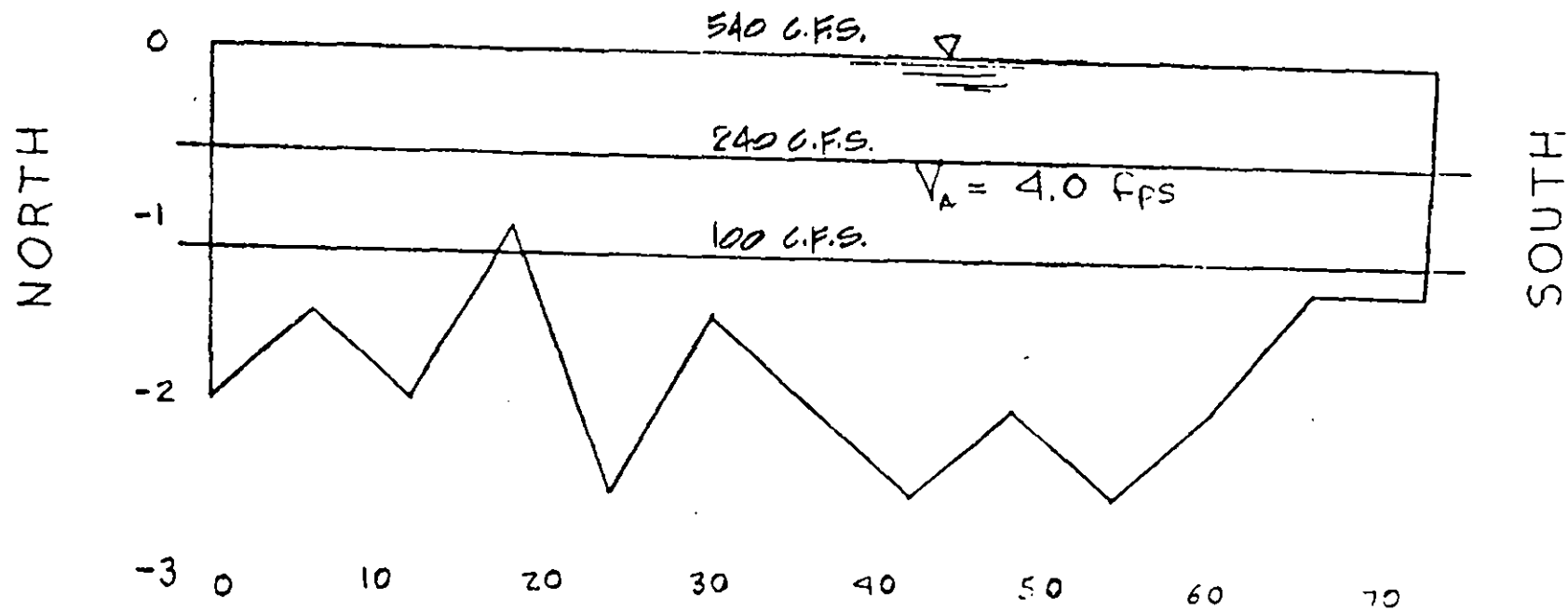


Figure 3



9





SCALE

HORIZ. 1"=10'
VERT. 1"=1'

WINNIPISAUKE RIVER
TRANSECT T-4

Figure 7



Figure 8a Photograph of typical habitat just downstream of Stevens Mills Dam.

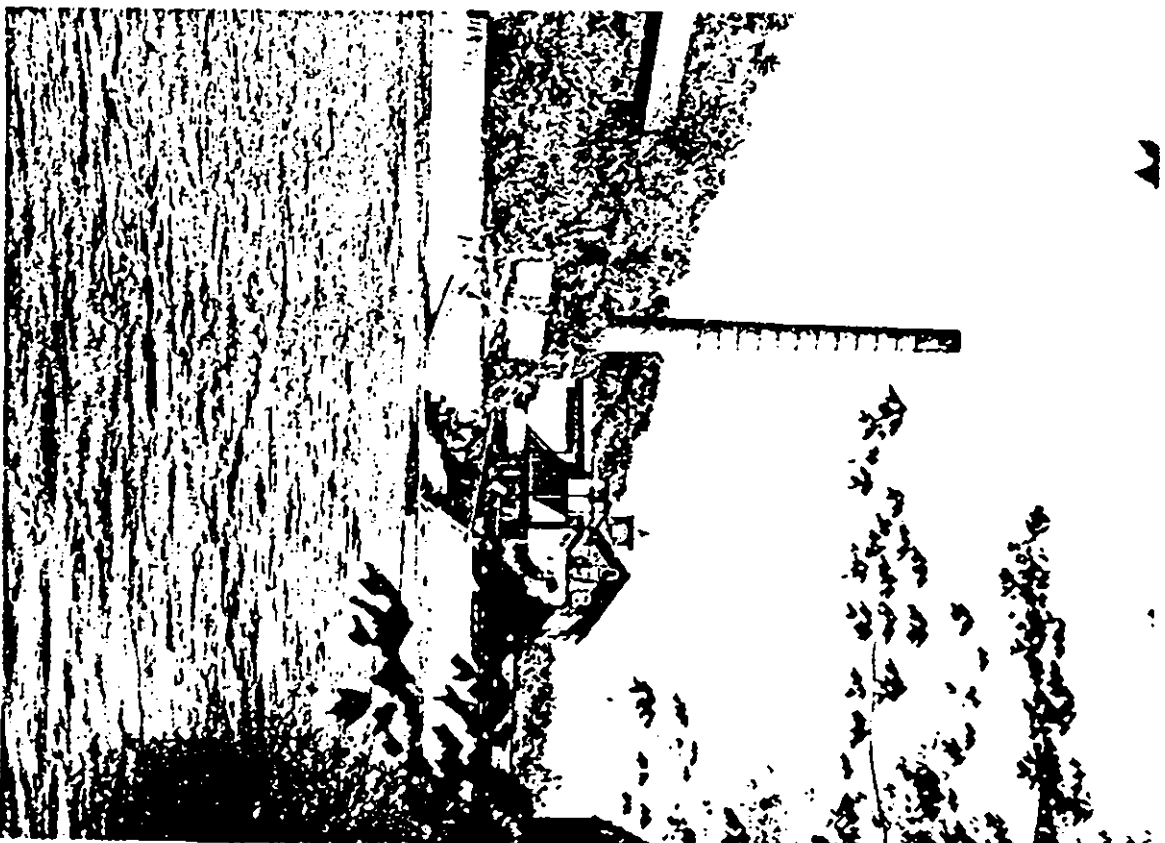


Figure 8b Photograph of typical habitat just downstream
of Memorial Street Dam.



Figure 8c Photograph of typical habitat approximately 100 yards downstream from Memorial Street Dam.

Physical Environment

The reach proposed for the by pass drops approximately 34 feet, consisting in downstream sequence, of the following (Figures 1 and 2):

- Stevens Mills Dam
- A short pooled area
- about 300 feet of riffle
- the short impoundment of Memorial Street Dam
- Memorial Street Dam
- about 700-800 feet of rapids and riffle
- about 4300 feet of backwater from the Franklin Falls Hydro Dam

In all, the by-passed reach is about 5800 feet long (about 80 percent of this is currently impounded by 2 dams). The bottom type in the pools was visually determined to be sand/gravel. The upstream riffle is 5 percent gravel, 15 percent cobble and 80 percent boulder. Substrate definitions are that defined by the New Hampshire Fish and Game Department (1938). The longer downstream rapids/riffle is about 20 percent gravel and 80 percent cobble in the shallow, slower upstream portion and about 5 percent gravel, 70 percent cobble and 25 percent boulders in its faster downstream part. The New Hampshire Water Supply and Pollution Control Commission has classed this reach of the Winnepesaukee as Class B.

Transects were taken across the river at four locations (Figure 3). Transect locations were subjectively selected to represent typical and biologically sensitive habitat. Depths were sounded with a weighted line or a measured rod from either a canoe or by wading. Velocities were measured with a General Oceanics axial flow propeller meter. Measurements were taken at approximate 2-3 foot intervals. The transects are shown in Figures 4 through 7. On the whole, water

depths were under 3 feet, though the speed of the current (at flows of about 465 to 540 cfs) was quite high. Riffle velocities ranged from 2 to 6 feet per second. The approximate (visually determined) amount of the bank to bank bottom substrate covered at the flows observed was 95-100 percent.

The stream bottom of the upstream riffle and the top one third of the lower rapid/riffle was rather uniformly contoured. The lower two thirds of the bottom rapid/riffle had numerous large boulders with pools scoured below them.

Calculations were made to estimate water depths at the four transects at a flow below that which was measured. Flow rates of 240 cfs (the aquatic base flow at 0.5 cfs per square mile) and 100 cfs were considered. Visual inspections at these flows were not possible due to high runoff. Consequently, the Manning equation was applied to produce estimates of water surface elevation at the lower flow rates.

Figures 4 through 7 show the estimated water depths at the various flows. As is clear from these renderings, there is substantial difference in riffle water depths between 100 and 240 cfs. Pools are affected less due to their lack of gradient. We consider the 3-8 inches available at 100 cfs to be adequate for inter-reach movement by passage of the dominant fish at the site. (See Table 2). Dissolved oxygen and temperature should not be greatly affected owing to the large amount of upstream aeration and river broadness (relatively high temperature).

Although it was not possible to observe at the flows during this review it is expected that 100 cfs would have no distinct channel in the upper reach, only a shallow riffle. In the lower reach it would probably appear as a somewhat more defined channel with pools. The zone of passage for fish in the former reach would appear to be 6-12 inches of fairly uniform depth (with about 80-85 percent of the bank to bank bottom wetted). Future bottom coverage values were estimated from the projected water depth calculations made on each of the four transects. The comparable figure for the lower reach was hypothesized

to be about 65 percent coverage. The lower reach would continue to have deep pools behind boulders but the connecting riffles would probably be 3-8 inches deep. Both reaches were visually estimated to be 95-100 percent covered with water when observed. Figure 8 shows photographs of typical habitat in the upper and lower reaches.

River Flow Characteristics

The Winnepesaukee River is regulated at the outlet of Lake Winnepesaukee by the New Hampshire Water Resources Board. The minimum discharge at that point is 200 cfs. About 122 square miles of additional drainage area are added between the WRB's dam and the Stevens Mills Dam. The regulated nature of the river makes the discharges more predictable, and it also makes measured low flow readings for this area (7Q10, median August, etc.) less meaningful. In other words, in the absence of regulation, the median August or 7Q10 flows would be lower. The mean annual flow is about 710 cfs at the site, based on records since 1937. Annual flows near Stevens Mills are shown in Table 1.

Fish/Benthic

The riparian area adjacent to the stream consists of mixed northern hardwoods, some red maple and a large amount of poison ivy. The tree canopy overhangs the water edge. Little ice scouring/scars were noticed. Apparently ice and debris reaching the area is sufficiently broken up by the numerous upstream dams and rapids to prevent widespread damage to streamside or perhaps benthic organisms. A list of fish species for the river appears in Table 2. Non-salmonid species dominate the site. All salmonids resident to the area originate from NH Fish and Game Department stockings.

A brief survey of the dominant aquatic macroinvertebrates showed caddis flies, May flies and stone flies to be common. Caddis flies were especially abundant. The reach appears to be quite biologically productive.

No up or downstream migrating anadromous fish are expected at the site, nor are any endangered or threatened plant or animal species resident to the area (USFWS, pers. comm.).

TABLE 1
ANNUAL FLOW DATA AT THE
TILTON, NH GAGE ON THE WINNIPESAUKEE RIVER

<u>PERCENT TIME EXCEEDED</u>	<u>FLOW (cfs)</u>
95	230
90	270
75	330
70	360
50	530
25	930
10	1500
MEAN FLOW	690

Drainage Area 471 Square Miles

(Source: USGS, WATSTORE Data)

TABLE 2
DOMINANT FISH EXPECTED NEAR THE STEVENS MILLS SITE ON THE
WINNIPESAUKEE RIVER

<u>COMMON NAME</u>	<u>SCIENTIFIC NAME</u>
Smallmouth bass	<u>Micropterus dolomieu</u>
Common white sucker	<u>Catostomus commersoni</u>
Fall fish	<u>Semotilus corporalis</u>
Common shiner	<u>Notropis cornutus</u>
Golden shiner	<u>Notemigonus crysoleucas</u>
Yellow perch	<u>Perca flavescens</u>
Common sunfish	<u>Lepomis gibbosus</u>
Northern brown bullhead	<u>Ictalurus nebulosus</u>
Eastern chain pickerel	<u>Esox niger</u>
White perch	<u>Morone americana</u>
Rainbow trout*	<u>Salmo gairdneri</u>
Brook trout*	<u>Salvelinus fontinalis</u>
Brown trout*	<u>Salmo trutta</u>

Source: NHF&G, Unpublished

*Stocked

Wildlife

The area is heavily urbanized except for one narrow strip of forest on the north bank of the river. No game species, except a grey squirrel, were observed or would generally be expected to inhabit the area. Passerine birds were common, especially tree, rough winged and barn swallows, which were observed feeding on emerging aquatic insects.

3.0 MINIMUM FLOW RECOMMENDATION

The Applicant proposes a minimum instantaneous discharge of 100 cfs for the Stevens Mills Project. This discharge will be made by the Applicant through the Unit I turbine located on the north bank of the river at the dam. Dam leakage and flows over 1000 cfs will be added to this minimum figure when they occur. Flows over this amount occur about 22 percent of the time, mostly in the spring. About 38 percent of the time flows in the reach in question would be in the 100-300 cfs range due to the proposed turbine mode of operation. About 22 percent of the time the flow will be over 300 cfs in the reach.

We estimate about 0.6 acre of bottom habitat will be exposed to drying. This would reduce the amount of substrate in the 5800 foot reach by about 4 percent. Mobile animals such as fish will be able to move up and downstream within the reach. Most of the river available for viewing from Odell Park and all of the reflecting pool (locally known as Peabody Place which is visible from Routes 3 and 11) will remain unchanged, as it is ponded by the Franklin Falls Hydroelectric Project. The view of the riffle area through the chain link fence will be of a river at continuously low flow (except following peak flow events which provide water above the maximum turbine capacity). The water depth will be several feet in pools behind boulders and inches deep in connecting riffles and runs.

4.0 IMPACTS/MITIGATION

Some benthic invertebrate production will be lost at the site. A decrease in the minimum flow rate from 240 to 100 cfs will cause no significant loss in adult holding areas. Dissolved oxygen or temperature changes will not be great owing to the river's steep gradient and relatively open (unshaded) existing character.

Existing sport fishing in the affected reach is negligible; thus, the proposed project will have no significant impact on sport fisheries.

The proposed tailrace will enter the Winnepesaukee River in the reflecting pool (Peabody Place) just upstream of the small island. After construction, no significant aesthetic changes will occur in the vicinity of Peabody Place. With appropriately planned activities, there should be little or no loss of aesthetic resource and little loss of attractiveness to the many waterfowl which inhabit the area.

In conclusion, a minimum discharge of 100 cfs will not significantly affect current fishery management and will be adequate to protect the existing resources. To minimize potential adverse effects, the following measures are proposed:

- 100 cfs will be discharged continuously through the turbines on the north side of Stevens Mills Dam.
- Any stream bank construction areas will be quickly revegetated and landscaped for optimal aesthetic benefit.
- Tailrace excavation will take place during low flow periods with appropriate siltation control measures.
- Existing riprap on island downstream of tailrace will be restored and improved if required to prevent erosion.

5.0 LITERATURE CITED

New Hampshire Fish and Game Department. 1938
Biological Survey of the Merrimack Watershed.
Concord, NH. 238p.

New Hampshire Fish and Game Department. Unpublished
Files. Concord, NH.

United States Geological Survey. 1981. Stream Flow
Data at the Tilton, NH Gage on the Winnepesaukee
River. Concord, NH.

United States Fish and Wildlife Service. Personal
Communication. Telephone Conversation of May 25,
1982.

CORRESPONDENCE
RELATED TO
ENVIRONMENTAL REPORT
AND
OTHER ISSUES



CITY OF FRANKLIN, NEW HAMPSHIRE

A Friendly City on the Move

03235

OFFICE OF City Manager

February 4, 1983

Morton J. Blumenthal
General Manager
Franklin Business Center
Smith and Canal Street
Franklin, New Hampshire 03235

Re: Fire Protection
L.E.W.C. 27-01-001

Dear Mort,

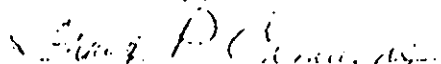
I have reviewed your letter dated February 2, 1983. The following will be acceptable to the City of Franklin concerning the placement of (4) dry hydrants as part of the referenced hydro project:

1. One dry hydrant on the Northerly side of the Winnepesaukee River on your property near the present Municipal Services Office.
2. Two dry hydrants on the Southerly side of the Winnepesaukee River on your property near the present dam site.
3. One dry hydrant on the Northerly side of the Winnepesaukee River on your property near the boiler room.

The final location, specifications and guarantee of water source must be approved by the Franklin Fire Chief. The hydrants must provide 1500 gallons per minute volume and be installed prior to the construction for the project.

Should you have any questions please feel free to contact me.

Sincerely,


Frank P. Edmunds
City Manager

FPE/b

c.c. Federal Energy Regulatory Comm.
Fire Chief Beauchemin



NEW HAMPSHIRE DEPARTMENT of RESOURCES and ECONOMIC DEVELOPMENT

GEORGE ULMAN
COMMISSIONER

TELEPHONE 603-271-2411

February 14, 1983

Mr. Norton J. Blumenthal, General Manager
Franklin Business Center
Smith and Canal Streets
Franklin, New Hampshire 03235

RE: FERC Project No. 3760-001 Revised

Dear Mr. Blumenthal:

The New Hampshire Department of Resources and Economic Development has no objection to the granting of an Exemption from Licensing for the Stevens Mill Dam Project located on the Winnepesaukee River, City of Franklin, Merrimack County, New Hampshire.

Based upon your letter of December 28, 1982, the enclosures with that letter (draft amendment; photos 1, 2a and 2b; purchase and sale agreement with Riverbend Mill; and Figure B - Project Plan, dated December 10, 1982), and the January 1983 report by Roy F. Weston, Inc., it has been determined that:

The proposed project will have no effect upon state park, state forest, or other properties that are the responsibility of the Department of Resources and Economic Development.

Odell Park, a major recreational facility of the City of Franklin, is immediately adjacent to the hydroelectric project site. This eight acre park is located on a sharp U-turn of the Winnepesaukee River, and thus most of the park property has frontage along the river, estimated to be about 5,000 feet. Odell Park has been developed in part with federal funds from the Land and Water Conservation Fund program. The proposed hydroelectric project will reduce the volume of water in the Winnepesaukee River flowing past the park. The water management operational program should be monitored to prevent adverse aesthetic and visual impacts upon Odell Park.

The proposed project will have no adverse effect upon properties within the Franklin Falls Historic District listed in the National Register of Historic Places, provided that the following conditions are met:

- a) No demolition of any building, including the powerhouse on the north side of the Smith and Canal Street buildings.
- b) The new penstock will exit the westwall of the powerhouse on the north side of the Smith and Canal Street buildings in a manner similar to that of the existing penstock on the east side.



Mr. Norton A. Blumenthal

February 14, 1983

Page 2

c) All exterior rehabilitation/restoration work at the existing powerhouses (Riverbend Mill) and one north of the Smith and Canal Street Buildings) be approved in advance by the State Historic Preservation Office to ensure conformance with the "Secretary of the Interior's Standards for Rehabilitation".

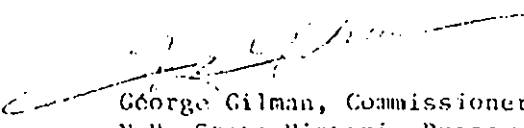
d) The number and location of dry hydrants, or other fire protection measures for the Historic District be approved by the Fire Chief, City of Franklin.

e) Riprap be placed on the side of the island nearest Riverbend Mill to prevent excessive erosion from the new plant's tail water.

As there are no longer competing applications for development of this location, and the Memorial Street Dam is not included in the proposed project, a decision by FERC will have no effect, direct or indirect, on the Dam. With these changes and stipulations, all concerns of the Historic Preservation Office will have been addressed.

Your incorporation of these comments into the exemption application material will be appreciated.

Sincerely,


George Gilman, Commissioner
N.H. State Historic Preservation Officer

GG/JFQ/mkb

cc: Deborah Manges, FERC
Kate Perry, ACHP (with enclosures)
Historic Preservation Office (Hume)
Recreation Services (Quinn)
Forests and Lands (Heath)



United States Department of the Interior

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

JUN 10 1982

Mr. Richard Carrier, P.E.
Roy F. Weston, Inc.
2 Chennell Drive
Concord, New Hampshire 03301

Dear Mr. Carrier:

We have reviewed the low flow report dated May 27, 1982, for the Stevens Mill Dam hydroelectric project, FERC No. 3454, located on the Winnepesaukee River in Franklin, New Hampshire. We understand that the report was prepared to justify a low flow of 100 cfs through the 5900-foot river reach that will be bypassed by diversion of flows through a penstock.

It is unfortunate that the study did not seek to determine an optimum flow for the aquatic organisms in the bypassed reach. Instead a single flow was selected (100 cfs) for an impact assessment. We would have preferred to see a range of flows examined for their relative protection of the aquatic biota in this reach. In fact, there is no explanation in the report of why 100 cfs was selected as the minimum flow. Furthermore, no basis is presented for accepting the assessment that 0.6 acres of streambed will be dry as a result of decreasing the existing minimum flow (roughly 200 cfs) to 100 cfs.

Despite our reservations about the low flow study and the conclusions presented in the report, we are willing to accept on a conditional basis the 100 cfs low flow release for the bypassed reach. However, we would like the Licensee or Exemptee to guarantee that if 100 cfs appears to the Federal and State resource agencies to be inadequate to protect aquatic resources in this 5900-foot reach, the minimum flow will be adjusted to provide sufficient protection. We provide this conditional acceptance based on our knowledge of the project area, on our discussions with the New Hampshire Fish and Game Department and on the approach taken with similar projects on the Winnepesaukee River.

If you have any questions, please contact me or Mr. Gordon Russell of my staff.

Sincerely yours,

Gordon E. Beckett

Gordon E. Beckett
Supervisor

STATE OF NEW HAMPSHIRE

FISH AND GAME DEPARTMENT

CHARLES E. BARRY
EXECUTIVE DIRECTOR



RECEIVED

JUN 17 1982

ROY F. WESTON, INC.
CONCORD OFFICE

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

June 14, 1982

Richard Carrier, P.E.
Roy F. Weston Inc.
2 Chennel Drive
Concord, NH 03301

Dear Mr. Carrier:

Members of my staff along with U.S. Fish and Wildlife biologists have reviewed your low flow report dated May 27, 1982.

We are in complete agreement with the comments to you from the U.S. Fish and Wildlife Services office here in Concord. Your proposed low flow of 100 cfs, presents no factual biological reason for this figure. It completely ignores the biological concerns which we must safeguard and it appears that the 100 cfs was chosen because it was a convenient figure to work with.

We are willing to go along with this figure with the same reservation being imposed by the U.S. Fish and Wildlife Service in their letter to you dated June 10, 1982. We expect that the licensee, or the exemptee to guarantee a minimum flow adjustment should the 100 cfs release be insufficient to adequately protect the aquatic resources in the 5000 foot by-passed section of river.

Sincerely,

Charles E. Barry
Charles E. Barry
Executive Director

CLB/cj1

EXHIBIT G
GENERAL ARRANGEMENT
DRAWINGS

APPENDIX I
EVIDENCE OF REAL
PROPERTY INTERESTS

RICHARD P. BROUILLARD

Attorney at Law

603-524-4480

MICHAEL R. RANDALL
Associate

16 ACADEMY STREET
LAGONIA, NEW HAMPSHIRE 03248

SUMMARY ABSTRACT OF TITLE

For

Marina Development, Inc.

Property of Franklin Mills, Inc.
Central Street, Canal Street, Memorial Street, and Bow Street
Franklin, New Hampshire

Subject Premises:

Several tracts or parcels of land, including buildings, dam and water rights on both sides of Winnepesaukee River in Franklin, New Hampshire, between Central Street and Bow Street, being the same premises as described in deed from J. P. Stevens & Co., Inc., to Franklin Mills, Inc., dated December 1, 1972, and recorded in Merrimack County Registry of Deeds, Book 1154, Page 135, with the exception of a certain tract of land on the westerly and southwesterly side of Memorial Street, deeded from said Franklin Mills, Inc., to Edward J. Forster, Ronald Forster, and Rudy Duplessis, by deed dated October 28, 1976, and recorded in Merrimack County Registry of Deeds, Book 1283, Page 497.

Also comprising a portion of the property conveyed from M. T. Stevens & Sons Company to J. P. Stevens & Co., Inc., by deed dated September 3, 1946, and recorded in Merrimack County Registry of Deeds, Book 631, Page 141.

Also comprising property conveyed from Shepard Grocery Corporation to J. P. Stevens & Co., Inc., by deed dated November 20, 1963, and recorded in Merrimack County Registry of Deeds, Book 932, Page 105.

Also being the property on the easterly side of Memorial Street in said Franklin, being the same premises described in deed from Martin A. Crowley to J. P. Stevens Co., Inc., by deed dated February 8, 1956, and recorded in Merrimack County Registry of Deeds, Book 978, Page 334.

Statutory Short Form

B1336P676

FRANKLIN MILLS, INC., a New Hampshire corporation with its principal place of business at Smith Street, Franklin, Merrimack County, New Hampshire, for consideration paid, grants to MARINA DEVELOPMENT INC., a Delaware corporation having a principal place of business at 30 Clinton Street, Plattsburgh, County of Clinton, New York, 12901 with WARRANTY COVENANTS, all those certain parcels of land or rights and interests in land, with the buildings and other structures thereon, situated in Franklin, County of Merrimack, State of New Hampshire, conveyed to M. T. STEVENS and SONS COMPANY by the following instruments, reference to which is hereby made for a more particular description of the premises or rights and interest in land therein described, viz:

- (1) Deed from Moses T. Stevens to M.T. Stevens and Sons Company dated September 1, 1902, recorded with Merrimack County Records, Book 344, Page 320.
- (2) Deed from Fred Aiken and James Aiken to M.T. Stevens and Sons Company, dated June 29, 1904, recorded with said Records Book 362, Page 20.
- (3) Deed from Arabelle R. Kenrick to M.T. Stevens & Sons Co. dated August 7, 1906, recorded with said Records, Book 369, Page 330.
- (4) Deed from Nathaniel Stevens, Mary O. Tyler, Sam D. Stevens, Moses T. Stevens, Virginia Cross and Helen S. Lovekin to M. T. Stevens and Sons Company, dated December 11, 1908, recorded with said Records, Book 383, Page 493.
- (5) Agreement made by and between M.T. Stevens and Sons Company and Henry L. Young dated March 12, 1909, recorded with said Records, Book 389, Page 82.
- (6) Deed from Patrick L. Kennedy to M.T. Stevens & Sons Company dated August 26, 1914, recorded with said Records, Book 419, Page 260.
- (7) Deed from Isabelle Langevin and Paul Langevin to M.T. Stevens & Sons Company dated July 19, 1916, recorded with said Records, Book 427, Page 591.

B1336P676

81336P677

- (8) Deed from International Hydro Electric Corporation to M.T. Stevens & Sons Company, dated October 9, 1933, recorded with said Records, Book 529, Page 322.
- (9) Deed from Franklin Savings Bank to M.T. Stevens & Sons Company, dated February 15, 1940, recorded with said Records Book 574, Page 282.

Also all riparian rights whatsoever in the Winnepesaukee River, all rights of way, water rights and franchises, easements of flowage, water locations and appropriations, ditches, flumes, penstocks, canals, dams and dam sites, aqueducts, and all other rights or means for appropriating, conveying, storing and applying water used or usable as appurtenant to the above granted premises and all water, sewer, storm water and surface water, mains, pipes, ditches, hydrants, sprinkler system and gas pipes and easements therefor.

Expressly excepting from the premises described in said deeds such portions thereof or easements therein as were conveyed by said M.T. Stevens & Sons Company by the following deeds, reference to which is hereby made for a more particular description of the premises thereby conveyed and/or the rights and easements thereby granted, viz:

- (A) Deed from M.T. Stevens and Sons Company to Franklin and Tilton Railroad dated February 1, 1910, recorded with said Records, Book 389, Page 437.
- (b) Deed from M. T. Stevens and Sons Company to Franklin Light and Power Company, dated January 18, 1924, recorded with said Records, Book 469, Page 1.
- (C) Deed from M.T. Stevens and Sons Company to Rolfe Camp Company, dated December 14, 1944, recorded with said Records, Book 611, Page 242.
- (D) Deed from M.T. Stevens and Sons Company to Albert M. Ayotte dated October 1, 1945, recorded with said Records, Book 617, Page 88.
- (E) Deed from M.T. Stevens and Sons Company to Stuart M. Burns and Louise S. Burns dated April 18, 1945 and recorded with said Records, Book 616, Page 104.

Also excepting from this conveyance the premises conveyed by J.P. Stevens & Co., Inc., to Bernadette Poirier by deed dated June 12, 1953 and recorded in Book 735, Page 93, Merrimack County Records.

Also excepting from this conveyance the premises conveyed by J. P. Stevens & Co., Inc., to Richard G. Tuck and Doris C. Tuck by deed dated September 14, 1972 and recorded in Book 1144, Page 491, Merrimack County Records.

The granted premises are hereby conveyed together with the benefit of and subject to any and all easements, agreements and restrictions set forth or referred to in said deeds or other instruments or any of them so far as now in force and applicable.

81336P677

B:336P678

Meaning and intending hereby to convey and hereby conveying all the real estate and rights and interest in real estate of every name and nature conveyed to said grantor by deed of M.T. Stevens and Sons Company dated September 3, 1946 and recorded in Book 631, Page 141, Merrimack County Records excepting conveyances heretofore made by M.T. Stevens and Sons Company and J.P. Stevens & Co., Inc.

Also conveying hereby two certain tracts of land, with the buildings thereon, situate in said Franklin, which tracts were conveyed to J.P. STEVENS & CO., INC., by deed of Shepard Grocery Corporation dated October 24, 1963 and recorded in Book 932, Page 105, Merrimack County Records, which tracts are described in said deed as follows:

"TRACT #1 - Beginning at the southeast corner of land, formerly of Frank B. Lemire and now of Merilda R. Brunelle, on the north side of Canal Street at an iron pin about one (1) foot westerly of the southwest corner of the Wholesale Store Building; thence Northerly about parallel to the west side of said building by land of the said Merilda R. Brunelle, land of the grantor, being Tract #2 described in this deed, land formerly of the grantor, and now of Nelson E. Howard, and land formerly of the Franklin Light & Power Company, now of Public Service Company of New Hampshire, one hundred and seventy (170) feet to an iron pin; thence Easterly by land formerly of the Franklin Light & Power Company now of Public Service Company of New Hampshire, seventy-six and twenty-five hundredths (76.25) feet to land of the grantee, formerly of P.L. Kennedy; thence Southerly by land of the grantee thirty-six and two tenths (36.2) feet to an iron pin at the northwest corner of land formerly of William Kaymer, now being part of the within-described tract; thence Southerly by land of the grantee one hundred and thirty-four (134) feet to said Canal Street; thence Westerly by said street seventy-five (75) feet to the point of beginning.

Meaning hereby to convey the same premises described in Warranty Deed of Robinson Shepard to Shepard Grocery Corporation, dated August 6, 1946 and recorded in Merrimack County Records, Book 633, Page 259.

TRACT #2 - Beginning at a point on the east side of Memorial Street and seventy (70) feet north from the northeast corner of Memorial Street and Canal Street; thence Northerly on Memorial Street to land formerly of Franklin Light & Power Company, now of Public Service Company of New Hampshire; thence Easterly by land of said company to other land of the grantor, being described in this deed as Tract #1; thence Southerly by Tract #1 to land formerly of the Estate of Samuel Janelle, now of Merilda Brunelle; thence Westerly by said Brunelle land to the first mentioned bound.

B:336P678

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Excepting and reserving that portion of the premises conveyed to Nelson E. Howard by Warranty Deed of Shepard Grocery Corporation dated July 19, 1954 and recorded in Merrimack County Records, Book 752, Page 452.

Meaning hereby to convey the same premises conveyed by deed to Shepard Grocery, Inc., dated August 7, 1946 and recorded in Merrimack County Records Book 633, Page 260, except that portion conveyed to Nelson E. Howard by deed recorded in Book 752, Page 452 of Merrimack County Records."

Also conveying hereby two certain tracts of land, with the buildings thereon, situate in said Franklin, which tracts were conveyed to said J. P. Stevens & Co., Inc., by deed of Martin A. Crowley dated February 8, 1966, and recorded in Book 978, Page 534, Merrimack County Records, which tracts are described in said deed as follows:

"Beginning at an iron pin on the Easterly side of Memorial Street and 113-1/2 feet North from the Northeast corner of Memorial Street and Canal Street; thence running NORTHERLY on Memorial Street Thirty-six and one half (36-1/2) feet to a stone bound at land formerly of Public Service Company of New Hampshire, being the second tract described in the within deed; thence Easterly along said land formerly of Public Service Company Sixty-six and twenty-eight hundredths (66.28') feet more or less to a stone bound on line of land formerly of Shepard Grocery Corporation and now of the grantee; thence SOUTHERLY along said land formerly of Shepard Grocery Corporation and now of the grantee, Thirty-six and one-half (36.5) feet to an iron pin; thence WESTERLY along land formerly of said Shepard Grocery Corporation and now of the grantee Sixty-nine (69) feet, more or less, to the point of beginning.

Meaning hereby to describe and convey the same premises conveyed to Nelson E. Howard by Warranty Deed of Shepard Grocery Corporation dated July 19, 1954, and entered in Book 752, Page 452, Merrimack County Records, the line between the first and second tracts described herein having been corrected from 69 feet to 66.28 feet to reflect a survey by the Public Service Company of New Hampshire.

Also conveying hereby another tract of land, with the buildings thereon, situate in said Franklin, bounded and described as follows, to wit:

B1336P679

Beginning at a stone bound on the East side of Memorial Street, at the Northwest corner of the tract first herein described, said stone bound being located 144 feet, more or less, Northerly along said East side of Memorial Street from its intersection with the North side of Canal Street; thence NORTHERLY along the East side of Memorial Street 34.21 feet, more or less, to a stone bound; thence EASTERLY, by turning an interior angle of $84^{\circ} 20'$ with the previous course, 69.51 feet, more or less, to a concrete bound (formerly an iron pin); thence SOUTHERLY by turning an interior angle of $89^{\circ} 55'$ with the previous course, 30.1 feet, more or less, to a stone bound on the extension of the Northerly boundary line of the tract above described; thence WESTERLY along said Northerly boundary line of the tract above described 66.23 feet, more or less, to the point of beginning. Said tract is bounded on the North and East by other land of the said Grantee.

Meaning hereby to describe and convey the same premises conveyed to K.M.H. Corporation by Nelson E. Howard dated July 8, 1963, and recorded in Merrimack County Registry of Deeds, Book 922, Page 94.

Meaning hereby to describe and convey the same premises conveyed to Martin A. Crowley by Warranty Deed of KMH Corporation dated January 6, 1966 and recorded in Book 978, Page 263 of the Merrimack County Records."

Also conveying hereby a certain portion of the premises in said Franklin conveyed by deed from Public Service Company of New Hampshire to J. P. Stavens & Co., Inc. by deed dated November 4, 1964, and recorded in Book 949, page 448, Merrimack County Records, subject to and excepting the reservation contained in said deed, said portion being described as follows:

2. A certain parcel of land, with the dam, penstocks, and other structures thereon, situated between the northeasterly side of Memorial Street and the southwesterly side of Bow Street, bounded and described as follows:

Beginning at an iron pin in the northeasterly line of Memorial Street at the southeasterly corner of land now or formerly of G.W. Griffin and Company, located on an extension of the westerly line of Memorial Street from the northerly line of Central Street to the angle point in said westerly line; thence North $20^{\circ} 00'$ East along land now or formerly of G.W. Griffin and Company one hundred forty-six and fifty-five hundredths (146.55) feet to an iron pin driven in the ground at the south-westerly bank of the Winnepesaukee River; thence turning a deflection angle of $16^{\circ} 30'$ to the right and running Three Hundred twenty-eight and fifteen hundredths (328.15) feet across said River to the northeasterly bank thereof and continuing on the same course One Hundred twenty-five (125) feet to a concrete bound with an iron pin in the top set in the ground at the southwesterly side of Bow Street; thence turning a deflection angle of $96^{\circ} 23'$ to the right and running along the southwesterly side of Bow Street Forty-Five and twenty-six hundredths (45.26) feet to concrete bound with an iron pin in the top set in the ground at the northwest corner of land to be conveyed by the Grantor to Rolfe Camp; thence turning a deflection angle of $82^{\circ} 51'$ to the right and running on Hundred seventeen (117) feet to an iron pin set in the ground at the top of the northerly bank of said River; thence easterly along the top of said bank Twenty (20) feet, more or less, to an iron pin set in the ground on line of land now owned by Rolfe Camp; thence southwesterly on the northwest boundary line of land now owned by Rolfe Camp to the center line of said River; thence southeasterly along

B1336R681

the center line of said River to a point of intersection with a line extending from the southerly bank of said River, at a point marking the boundary line between land of the Grantor and land formerly of M. T. Stevens & Company (now of the Grantee), northeasterly on a course forming a 90° angle with the centerline of said River; thence southwesterly by said last described line to the southerly bank of said River; thence about South 04° 00' West along land formerly of M.T. Stevens and Company (now of the Grantee) Thirty-six (36) feet to a corner; thence turning a deflection angle of 89° 07' to the right and running Seventy-five and seventy hundredths (75.70) feet on line of land formerly of Shepard Grocery Corporation (now of the Grantee) to a stone bound at land now or formerly of Nelson E. Howard; thence turning a deflection angle of 90° 38' to the right and running ten and fifty-nine hundredths (10.59) feet to a concrete bound at the northeast corner of land now or formerly of Nelson E. Howard; thence turning a deflection angle of 90° 05' to the left and running along said land now or formerly of Nelson E. Howard Sixty-nine and fifty hundredths (69.50) feet to a stone bound at the northerly side of Memorial Street; thence turning a deflection angle of 31° 49' to the right and running along the northerly side of Memorial Street Fifty and eight hundredths (50.08) feet to the point of beginning.

Being all of the second described parcel of land in deed of Franklin Light and Power Company to Public Service Company of New Hampshire dated October 15, 1928, and recorded in the Merrimack County Registry of Deeds, Book 502, Page 62, excepting that part of said parcel which was conveyed by the Grantor to Nelson E. Howard by deed dated December 31, 1954, and recorded in Book 922, Page 92, in the Merrimack County Registry of Deeds; also being part of the third described parcel of land in said deed of Franklin Light and Power Company.

3. All water power, water and other rights of the Grantor appurtenant to the parcels hereby conveyed, as said rights were conveyed to the Grantor by said deed of Franklin Light and Power Company and by Indenture of Shepard Grocery Corporation dated November 4, 1963, and recorded in the Merrimack County Registry of Deeds, Book 931, Page 74.

Excepting and reserving to the Public Service Company of New Hampshire, its successors and assigns, the following described property:

(1) Any and all poles, wires, fixtures, transformers and other equipment used or useful in the Grantor's (Public Service Co. of N. H.) electric utility business, now owned by the Grantor (Public Service Co. of N.H.) and located on the land hereby conveyed.

(2) The right and easement to construct, repair, rebuild, operate, patrol and remove overhead lines consisting of wires, cables, poles and towers together with foundations, crossarms, braces, anchors, guys, grounds and other equipment for transmitting electric current, and to do the necessary cutting and trimming of trees and brush, over and across the land hereby conveyed; said lines to be located in approximately their present locations as described below:

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B1336P6P1A

a. Bow Street to Memorial Street Line. Beginning at the northeasterly line of the second parcel at the southwesterly side of Bow Street; thence extending southerly to a two-pole structure identified as poles No. 234/1 and No. 234/1A on the northerly side of the Winnepesaukee River; thence extending southerly across said River to another two-pole structure identified as poles No. 234/2 and No. 234/2A near the southerly bank of said River; thence extending southerly to pole No. 234/3 located easterly of land of G.W. Griffin & Co.,; thence extending southerly to pole No. 234/4 on the first parcel and on the westerly side of Memorial Street near the bend in said street to poles No. 234/5, No. 234/6, No. 234/7 and No. 234/7A, the last two numbered poles being located near the northeasterly corner of land of the City of Franklin.

b. Stevens Tap. Beginning at the westerly line of the second parcel on the northerly side of the Winnepesaukee River; thence extending southwesterly to pole No. 8; thence extending southeasterly to the easterly line of the second parcel.

Also excepting and reserving from this conveyance the gasoline tank and pump owned by Socony Mobil Oil Company, Inc., and located on the second parcel under the terms of an agreement between said Oil Company and Grantor (Public Service Co., of NH)".

This conveyance is also made subject to the covenants and agreements set forth in said deed to which reference is made for more particular description.

Meaning to convey hereby all lands, interests in lands, other than mortgages, with buildings and improvements thereon, and all dams, riparian rights, rights of flowage and water rights owned by the Grantor and situate in Franklin, County of Merrimack, State of New Hampshire. All property conveyed subject to all easements and rights of way of record.

Further excepting and reserving all land, buildings, penstocks and other structures, along with all rights, easements conditions and other conveyances found in the deed from Franklin Mills, Inc. to Edward F. Forster, Ronald Forster and Rudy Duplessis by Warranty Deed dated 1 November 1976 and recorded in the Merrimack County Registry of Deeds.

Meaning and intending to convey a portion of premises and rights conveyed to the Grantors by J.P. Stevens & Company, Inc. by Warranty Deed dated 1 December 1972 and recorded in Merrimack County Registry of Deeds, Book 1154, Page 135.

The Grantee acknowledges that it has had a reasonable opportunity to inspect said premises conveyed hereby and the Grantee acknowledges that it accepts said property in its present condition without any reliance whatever upon representation of the Grantor as to its condition or state of repair, and that it will accept all

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B1336P682

risks incident to the ownership of said property in its present condition regardless of its state of repair.

IN WITNESS WHEREOF FRANKLIN MILLS, INC. has caused its name and corporate seal to be affixed on this 28th day of November, 1978.

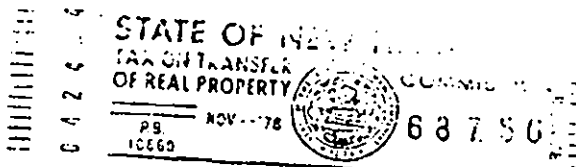
FRANKLIN MILLS, INC.

Bradley F. Kidder
Witness
Bradley F. Kidder
STATE OF NEW HAMPSHIRE

By: Anthony Turchin
Its duly authorized
Anthony Turchin PRES.

The foregoing instrument was acknowledged before me this 28th day of November, 1978, by Anthony Turchin, Pres. on behalf of the corporation..

Bradley F. Kidder
Notary Public
My Commission Expires: Justifying Power
Bradley F. Kidder



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CERTIFICATE OF VOTE

I, Bradley F. Kidder hereby certify that I am the Clerk of Franklin Mills, Inc. and that at a meeting of the Board of Directors of the corporation duly held on Thursday, November 16, 1978, at which a majority of the Directors were present in person, the following vote was duly and unanimously adopted:

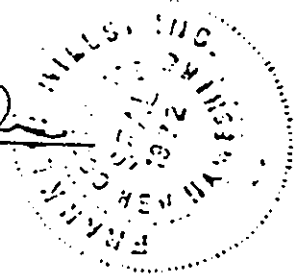
"RESOLVED: That the President be authorized to execute a Warranty Deed of the remaining real estate and buildings owned by Franklin Mills, Inc. to Marina Development, Inc. at a real estate closing held in accordance with the "Option to Purchase" dated 1 February 1978 as extended."

A TRUE COPY OF THE RECORD,

ATTEST:

CLERK

Bradley F. Kidder



MERRIMACK COUNTY RECORDS
Recorded Nov.30,4-50P.M.1978

B1336P683

84 FERC ¶ 62,162

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Franklin Industrial Complex, Inc.) Project No. 3760-007

ORDER AMENDING EXEMPTION

AUG 20 1998

On April 17, 1997, Algonquin Power Systems, Inc., Operating Manager for Franklin Industrial Complex, Inc., exemptee for the Stevens Mill Project, FERC No. 3760, filed an application to amend its exemption. The exemptee requested the Commission's approval to remove an idle generating unit G2 placed in the Bow Street Powerhouse. The project is located on the Winnepesaukee River within the City of Franklin, Merrimack County, New Hampshire.

BACKGROUND

On June 14, 1983, the Stevens Mill Project was exempted from licensing. 1/ The project was authorized with two powerhouses with a total installed capacity of 1,940 kW. The Bow Street Powerhouse, located on the north side of the Winnepesaukee River, originally consisted of a single unit rated at 340 kW. The River Bend Powerhouse, located near Central Street, contained a single unit with a total rating of 1,600 kW. On November 28, 1990, the 340 kW unit in the Bow Street Powerhouse was replaced with two generator units having capacity ratings of 236 kW G1, and 225 kW G2. The 1,600 kW unit G3, on the River Bend Powerhouse, was upgraded to 1,700 kW. On April 16, 1991, 2/ the exemption was amended to revise the project's authorized capacity from 1,940 kW to 2,161 kW.

On September 18, 1996, the New York Regional Office (NYRO) inspected the project. During the inspection, NYRO found that turbine unit G2 has been idle since 1992, because of mechanical difficulties. By a letter dated September 27, 1996, the exemptee was requested to provide a plan and schedule to restore the unit, or to file an amendment of the exemption to remove the unit from the project. The exemptee filed an application to amend its exemption on April 17, 1997, and included a revised Exhibit A for the Commission's approval.

1/ See, 23 FERC ¶62,342.

2/ See, 55 FERC ¶62,037, Order Amending Exemption.

FERC - DOCKETED
AUG 20 1998

980824.0344.3

Project No. 3760-007

-2-

PROJECT DETAILS

In the April 17, 1997, application, the exemptee proposes to remove existing Unit G2 from the Bow Street Powerhouse, and explains the following:

- An economic analysis of the feasibility of repairing the unit determined that, the cost to repair unit G2 would far exceed the annual revenue the turbine would produce.
- In 1985, the exemptee removed an existing generating unit G1 on the Bow Street side, and installed a Flygt unit. The unit was installed to maintain the minimum flow requirements set forth in Article 2 of the exemption. The unit is presently operating and provides the minimum compensation flow to the bypass reach.
- The removal of unit G2 will not impact the minimum flow, downstream fish passage, or other environmental resources. Turbine unit G2 was installed in 1907, rehabilitated in 1986 with used parts, and produced about 225 kW. Its maximum hydraulic capacity was approximately 200 cfs. It was only used when the river flows exceeded 1,100 cfs, which was approximately 15% of the time during a normal year.
- The work of removing unit G2 from the project would involve: removing trash-racks at intake gate, and permanently seal and secure the gate; and securing powerhouse building including doors, windows, and railings. The work will be completed by October 30, 1998.

CONSULTATION

On June 17, 1997, the Commission issued a public notice, with a comment date on August 6, 1997, concerning the exemptee's proposal. No comments, protests, or motions to intervene were filed. In addition, the exemptee contacted the New Hampshire Department of Environmental Services, New Hampshire Fish and Game Department, and the United States Fish and Wildlife Service. They have no objections or questions on the amendment, and removal of the idle unit. They requested the exemptee to maintain the required flow to the bypass reach, and follow all environmental requirements in the exemption.

In a letter dated July 7, 1997, to the exemptee, staff requested comments from the New Hampshire State Historic preservation office (SHPO). The comments were required pursuant to Article 6 of the exemption, and prior to the removal of any

Project No. 3760-007

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equipment. In the letter, staff made a proposed determination that the exemptee's proposal will have no effect on cultural resources. In a letter dated July 29, 1997, the exemptee included SHPO's response stating that, since none of the existing equipment is historically significant, they do not object to the amendment application.

DISCUSSION

The following summarizes staff's review of the application:

Environmental Impacts In our review of the filings, we find that the environmental impacts from removing the turbine would be negligible because it would not involve ground disturbing activities. Removing the turbine would have no effect on minimum flows, fish passage, water quality, or historic properties. The exemptee consulted with the U.S. Fish and Wildlife Service, New Hampshire Fish and Game Department, New Hampshire Department of Environmental Services and the New Hampshire Division of Historical Resources's State Historic Preservation Officer concerning removal of the turbine. There are no objections to the proposed action.

Installed Capacity The removal of unit G2 will result in a reduction of the total installed capacity of the project by 225 kW. The revised exhibit A describes two powerhouses, each contains a single generating unit rated at 236 kW (G1), and 1,700 kW (G3), for a total rated capacity of 1,936 KW.

Exhibit Revisions While reviewing this amendment proposal, staff found minor inconsistencies on prior approved exhibits. An Order Approving As-Built Exhibits, issued April 25, 1991, 3/ labeled exhibits F-1 through F-5, as drawing Nos. 11 through 15, which show project features. The order also approved Exhibit G-1, as drawing No. 16 that shows the project boundary. However, Section 4.107 of the Commission's Rules and Regulations identifies Exhibit B drawings to show the project boundary, and land ownership, and Exhibit G drawings to show the structures and equipment necessary for features. Therefore, to resolve the discrepancy, this order will reassign new exhibit numbers to the approved exhibits. This order relabels exhibits F-1 through F-5, as G-1 through G-5 to show the project features, and exhibit G-1, as B-1 to show the project boundary. Ordering paragraph (D) summarizes the reassigned exhibits. The exemptee is not required to file aperture cards for the reassigned exhibits. However, the removal of unit G2 will affect exhibit drawings G-1 and B-1 (formerly

3/ See, 55 FERC ¶62,066, Order Approving As-Built Exhibits.

Project No. 3760-007

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labeled as F-1 and G-1, approved by the April 25, 1991 order). Therefore, within 90 days of issuance of this order, the exemptee must submit for approval revised exhibits reflecting the removal of unit G2 from the project.

This order will amend the exemption for the Steven's Mill Project, to allow the removal of generating unit G2 from the Bow Street Powerhouse. This order approves the revised exhibit A, which conforms the Commission's Rules and Regulations. This order also requires the exemptee to file revised exhibit drawings for the Commission's approval.

The Director orders:

(A) The exemption for the Stevens Mill Project, FERC No. 3760, is amended as provided by this order, effective the first day of the month in which this order is issued.

(B) The project Description in the exemption is revised, in part, to read:

(2) Project works consisting of": . . . ; (5) The River Bend Powerhouse containing Unit 3, rated at 1,700 kW; (6) The Bow Street Powerhouse at the North river bank containing a single Flyght, vertical Kaplan Unit 1, rated at 236 kW . . . "

(C) The revised exhibit A, filed on April 17, 1997, conforms to the Commission's rules and regulations and is approved and made part of the license, superseding the existing exhibit A.

(D) The following table reassigns to previously approved exhibit drawings new FERC exhibit numbers:

Table 1

OLD EXHIBIT No	REASSIGNED EXHIBIT No.	FERC DRAWING No.	DRAWING TITLE
F-1	G-1	3760-11	PROJECT GENERAL ARRANGEMENT
F-2	G-2	3760-12	UNIT III- INTAKE PLAN
F-3	G-3	3760-13	UNIT III- INTAKE SECTIONS
F-4	G-4	3760-14	UNIT III-POWERHOUSE SECTION
F-5	G-5	3760-15	UNIT III- POWERHOUSE PLAN
G-1	B-1	3760-16	PROJECT BOUNDARY

(E) Within 90 days of the date of issuance of this order, the exemptee will file for approval an original and eight copies

Project No. 3760-007

-5-

of revised exhibit G-1 and B-1 drawings showing the as-built conditions of the project.

(F) The exemptee will report to the Commission any future proposed changes to the project prior to implementing them.

(G) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713.

Carol L. Sampson
for Carol L. Sampson
Director
Office of Hydropower Licensing

APPENDIX B

PROJECT PHOTOS



PHOTO 5-1 STEVENS MILL VIEW OF IMPOUNDMENT LEADING TO THE DAM



PHOTO 5-2 STEVENS MILL DAM



PHOTO 5-3 STEVENS MILL CONCRETE SPILLWAY



PHOTO 5-4 STEVENS MILL CONCRETE SPILLWAY WITH SLUICE GATE



PHOTO 5-5 DOWNSTREAM FISH PASSAGE FACILITIES



PHOTO 5-6 DOWNSTREAM FISH PASSAGE FACILITIES



PHOTO 5-7 STEVENS MILL (BOW STREET) POWERHOUSE



PHOTO 5-8 STEVENS MILL DAM

APPENDIX C

AGENCY CONSULTATION



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

January 11, 2015

Regulatory Division
CENAE-R-PEC
File Number: **NAE-2016-28**

Elizabeth Muzzey, Director and State Historic Preservation Officer
NH Division of Historical Resources
19 Pillsbury Street
Concord, New Hampshire 03301-3570

Dear Ms. Muzzey:

This letter regards the Stevens Mill Hydroelectric Project in the Franklin, New Hampshire. This proposal by Eagle Creek Renewable Energy LLC to discharge dredged and fill material in 500 sq. ft. in and along the Winnepesaukee River for construction of a new downstream fish passage structure at the Stevens Mill Hydroelectric Project consists of:

- installation of wood panels over the Unit 3 racks, on the south side of the river, to block perpendicular flow to the unit entrance in order to prevent fish from entering that portion of the unit intake
- modifications to the existing stop log guides, on the south side of the river, upstream of an existing gate opening, for the installation of a new stop log assembly that includes a hoist structure, stop log panels and operator
- installation of new rack overlay panels at the entrance to Unit 1, on the north side of the river, to reduce the clear opening between existing bars in order to exclude downstream migrants from the unit intake
- construction of a new plunge pool, on the south side of the apron of the dam located at the discharge of the new stop log assembly, modified at the exit with a new weir assembly, and a transport channel which will convey downstream migrants to the river

The application for a Section 404 permit for the fish passage system has been assigned file number NAE 2016-28. For purposes of our permit review, the Corps is evaluating the entire fish passage system project as one permit application.

We are providing the project plans with our permit area determination for your information and use in identifying potential historical resources within the Corps permit areas to the Corps. We have reviewed the project plans for the fish passage system and have no recommendations at this time.

Section 106 of the National Historic Preservation Act states "The head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into

account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register."

This Corps response letter is in answer to the January 4, 2016 email written by Eagle Creek Renewable Energy requesting a permit area determination for their project. Project plans were submitted by Eagle Creek Renewable Energy identifying and describing the work impact areas for this project.

Corps jurisdictional areas are limited to wetlands or waters of the US. The Corps has determined their federal permit area for this project to be the four work effort areas described above. The permit area is where the discharge of fill material (i.e., the undertaking) within the permit area as defined by the Corps in accordance with Appendix C.

Access to the site for vehicles and equipment will be from East Bow Street and / or Canal Street / Smith Street. The previously disturbed area on the northern side of the dam off East Bow Street, on property owned by Eagle Creek, will be used for construction access, as well as a temporary laydown and staging area for materials and equipment. This area was previously disturbed during construction of the dam, units and other building along the river.

In summary, the Eagle Creek fish passage system as proposed will avoid working in the undisturbed landscape areas of the Stevens mill dam and utilize only the previously impacted areas for their current proposed work efforts. No known resources are likely to be affected by the undertaking as defined by the Corps because no known historic structures and no known archeological sites are within the Corps permit areas.

With this letter, the Corps is advising you as to the Corps permit area for the fish passage structure for purposes of Section 106 consultation.

The Corps is not recommending any assessments where there have historically been significant ground disturbing activities for the installation and maintenance of the existing canal structures. Are there any resources which the Corps may not be aware of in Corps permit areas? Please let us know if there are any resources which have not been reported to the Corps.

Please contact David Keddell of my staff at 978-318-8692 with your resource determination or if you have any questions or comments concerning the Corps permit areas.

Sincerely,



Frank J. Delgiudice
Chief, Permits & Enforcement Branch C
Regulatory Division

Attachments

Copy Furnished:

Susan Giansante, Eagle Creek Renewable Resources, 65 Madison Avenue, Suite 500,
Morristown, New Jersey 07960 susan.giansante@eaglecreekre.com

Elise Anderson

From: Warner, John
Sent: Monday, November 07, 2016 9:01 AM
To: Elise Anderson
Cc: Henderson, Carol; ted.walsh@des.nh.gov; Michael Bailey; Bryan Sojkowski
Subject: Re: Hydroelectric Projects: Fish Passage & WQ
Attachments: Jackson Mills-P-7590-InspectionReport.pdf

Elise - sorry for the delay in responding. Regarding these projects, attached is a memo from our fishway engineer outlining fish passage issues at Jackson Mills - There are a number of issues that need to be addressed as outlined in the inspection report. The intent had been to convey this to Essex and the City of Nashua first, but I have not gotten that transmittal out and want you to have this.

Regarding the Pennacook Upper and Lower projects, fish passage measures there are tied to Rolfe canal passage issues. The status of Rolfe is unclear to me - i.e. what has been done for downstream eel passage there? So I cannot provide a review of the adequacy of passage at the other sites without some update from Essex on Rolfe.

Regarding the three new projects under review:

- Pembroke still has an outstanding determination of bypass flow adequacy, being held up by the lack of adequate flow control devices at the dam to evaluate test flows, and there are downstream herring passage issues that should be addressed and passage measures clarified as part of LIHI cert.

- Stevens Mill has completed its downstream passage measures as agreed to at this point, though the adequacy of those measures will be observed and future changes may be needed. The bypass flow is adequate.

- Greggs Falls - There have been operational issues with fluctuating discharges in the past that were supposed to be rectified and there has been improvement, but based on my review of the USGS gage data, the project is not managing flows in an instantaneous run of river mode. We can discuss these items further as needed - JW

From: [Susan Giansante](#)
To: [Rosset, Julianne](#)
Cc: [Bob Gates](#)
Subject: RE: Downstream Site Inspection Follow Up & Operations and Flow Monitoring Plan Comments
Date: Tuesday, October 15, 2019 12:47:34 PM
Attachments: [image003.jpg](#)

Hi Julianne-

Thanks for the summary of our site visit and the comments from you and Bryan on the Operations and Flow Monitoring Plan.

In reviewing the comments on the plan, some of the suggested edits are related to the terms of the MOA, and we would like to further discuss them with you as we work towards extending the current MOA.

In that regard, we are interested in setting up a call to begin discussions for extending the MOA.

Do you have availability sometime in the first couple of weeks of November, 11/12 or 13th at 11 am, or the following week 11/18 (except 11am to noon), 19th or 20th in the morning?

Please feel free to give me a call if you would like to discuss further.

Enjoy this lovely fall day!

Kind regards-
Sue

Susan Giansante
Project Manager
Eagle Creek Renewable Energy, LLC
Mobile: 860-620-4527
E-Mail: Susan.Giansante@eaglecreekre.com



From: Rosset, Julianne <julianne_rosset@fws.gov>
Sent: Wednesday, September 18, 2019 12:01 PM
To: Susan Giansante <susan.giansante@eaglecreekre.com>; Bob Gates <bob.gates@eaglecreekre.com>; Bryan Sojkowski <bryan_sojkowski@fws.gov>; Corey Colby <corey.colby@eaglecreekre.com>; Matt Carpenter <matthew.carpenter@wildlife.nh.gov>
Subject: Downstream Site Inspection Follow Up & Operations and Flow Monitoring Plan Comments

Hi Sue and Bob -

Attached to this email are Bryan's comments on the Operations and Flow Monitoring plan. Additionally, below please find our recommendations and notes from the September 10th, 2019 inspection of the downstream passage facilities at Lochmere, Clement, and Stevens Mills.

Lochmere:

- Conditions (e.g., velocity through the bypass, hydraulics in the trap) looked good. Corey noted that only 2 units were on with total power canal flow being 500 cfs
- Corey stated that they don't adjust the number of stop logs in the bay throughout the season
- The state of NH owns the dam, Eagle Creek leases the property for hydro.
- The low level gate on the dam was opened to pass the minimum bypass flow. This is not ideal in that any eels that may utilize that route get shot out into the rocks at a very high velocity.

Recommendations/Action Items

- O&M should be updated to include the specifics of how the downstream bypass is operated (e.g., # of stop logs, if flow is to be adjusted it should only be done via stop logs with the gate being full open or closed, communication protocol)
- We should contact the state about the method in which the minimum bypass flow is passed through the dam. **Note: this task has been completed - NHDES replied on 9/18/19 that they closed the gates, pulled the stoplogs, and currently there are 4 bays with the top log out for flow.*
- The communication protocol to be included within the O&M will need to specify the information we would like recorded (e.g., number of units on/off during fish movement)

Clement:

- Hydraulics of water over the surface bypass, into the plunge pool, and down into the tailrace seemed acceptable

Recommendations/Action Items

- O&M should be updated to include communication protocol
- Matt Carpenter will do his best to work with Corey to look at the downstream reach during active downstream migration to see if fish are dead/injured

Stevens Mills/River Bend:

- Excessive sediment deposition along the left bank racks causing high velocities through the racks which poses a high risk of fish becoming entrained in the units. Flow inducers had no effect on providing a sweeping velocity across the rack
- Corey mentioned that the sediment witnessed during the inspection was a build up over 3 years.
- Bob Gates stated that it would be a benefit to all parties if the sediment was dredged on an annual basis and that it could be completed at a low cost because they own the machinery to perform the dredging.

- Bob Gates wondered if louver style racks would help in providing a sweeping velocity
- Matt noted that these are the only racks within the river that are not at 3/4" spacing.
- Flow from downstream bypass overtopping the plywood training wall (only an issue if there is no spill over the dam).
- Plywood training wall had screws facing into the flow rather than towards the apron which could cause injury (see attached photo).
- Flow through the downstream bypass can be adjusted via metal stop logs but according to Corey, they have found a setting that works and therefore does not change it throughout the season.

Recommendations/Action Items

- Recommend a protocol of dredging on an annual basis to maintain the lowest possible velocities through the left bank intake racks
- O&M should be updated to include operational procedures (e.g., number of metal stop logs, boards implemented on portion of the left bank racks that are perpendicular to flow, communication protocol, flow inducer operations)
- Agencies need to internally discuss option of 3/4" racks and potential for louver style orientation
- Eagle Creek to inspect the reach downstream of the units to see if fish are being killed

Miscellaneous Items:

- Sue to provide as-built drawings for each site **Note: Completed. Sue sent drawings on 9/11/19.*

If you have any questions, please feel free to call or email me.

Kind regards,
Julianne

Julianne Rosset
Fish & Wildlife Biologist
USFWS New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301
603-227-6436
julianne_rosset@fws.gov

APPENDIX D

MEMORANDUM OF AGREEMENT BETWEEN EAGLE CREEK AND USFWS



June 25, 2019

Tom Chapman
Supervisor, New England Field Office
United States Fish & Wildlife Service
70 Commercial Street, Suite 300
Concord, NH 03301

Ref: Interim Extension of Memorandum of Agreement
Fish Passage and Project Operations
Eagle Creek RE Management and the US Fish and Wildlife Service

Dear Mr. Chapman:

On August 14, 2014, the United States Fish and Wildlife Service (Service) and Eagle Creek RE Management, LLC (ECREM), collectively the "Parties", entered into a Memorandum of Agreement (Agreement), the purpose of which established a plan and schedule for addressing fish passage and minimum flow issues at ECREM's Hydroelectric Projects in New Hampshire ("the sites") that facilitated receipt of certification as low-impact hydroelectric projects from the Low Impact Hydroelectric Institute (LIHI), with support from the Service. The term of the Agreement was to remain in full force and effect for a period of five years from the date of the signed Agreement, i.e., August 14, 2019. After which time, by mutual consent, the Parties may extend the term of the Agreement.


Appendix A of the Agreement set forth a plan and schedule for environmental enhancement measures to be established in consultation with and approved by the Service. Additionally, the Agreement required the development of an Operations and Flow Monitoring Plan and a Fish Passage Facilities Operations and Maintenance Plan. Over the 5-year term of the Agreement, Appendix A continued to be updated based on changes to schedule and conceptual designs, however the premise of the Agreement remained the same, with the Parties continuing to work cooperatively to address fish passage and minimum flow issues at the sites. (Included for reference as Appendix 1 is the Agreement and the current version of the Appendix A, as initialed by the Service in August 2017). This Appendix will be updated to reflect current conditions and any new efforts during the term of the MOA.

Based on recent conversations, and notwithstanding the second sentence of Article 1.1 of the Agreement, the Parties agree to extend the term of the current Agreement until the end of the first quarter of next year, March 31, 2020, as an interim measure, to allow the Parties to complete site visits this fall (2019), during the river herring downstream migration season, and conduct a bypass flow demonstration after completion of the partial removal of the Pembroke dam. The site visits will better allow the Parties to understand current conditions of each of the sites and agree to future measures, as needed. In this interim, the Service will continue to support LIHI certification of the sites encompassed under the Agreement.

Furthermore, as agreed to by the Parties, Lakeport and Mine Falls will be removed from the Agreement. Lakeport is currently in the midst of Federal Energy Regulatory Commission (FERC) relicensing. The Service is an active participant in Lakeport relicensing, and Lakeport related matters will be addressed during relicensing. For Mine Falls, the lease agreement between the City of Nashua and Mine Falls Limited Partnership, was terminated April 2017. Operations and maintenance of the Mine Falls Project are now the responsibility of the City of Nashua as the owner of the facility.

Except as modified herein, the terms of the Agreement remain in full force and effect.

The Parties hereby indicate their agreement to the terms above:

Eagle Creek RE Management, LLC	United States Fish and Wildlife Service
By:  Robert A. Gates	By:  Tom Chapman
Title: EVP Operations	Title Supervisor, New England Field Office
Date: June 26, 2019	Date: 11 July 2019

Interim Extension of Memorandum of Agreement

Appendix 1

- **Memorandum of Agreement, August 18, 2014**
- **Revised Appendix A, August 2, 2017**

FISH PASSAGE and PROJECT OPERATIONS

MEMORANDUM OF AGREEMENT

Eagle Creek RE Management and the U.S. Fish and Wildlife Service

1.0 INTRODUCTION

This Memorandum of Agreement (Agreement) is entered between the United States Fish and Wildlife Service (Service) and Eagle Creek RE Management, LLC (ECREM). ECREM is a Delaware limited liability company and is wholly owned by Eagle Creek Renewable Energy, LLC (ECRE). Individually, the above may be referred to as a "Party," collectively "Parties."

1.1 Term of the Agreement

This Agreement will remain in full force and effect for a period of five years from the date of the Agreement. After that time the parties can, by mutual agreement, extend the term of the contract for one or more subsequent five-year periods. Either party may also terminate this Agreement at the end of each five-year term without liability to any other party or any further obligations hereunder.

1.2 Purpose

This Agreement establishes a plan and schedule for addressing fish passage and minimum flow issues at ECREM's hydroelectric projects in New Hampshire that will facilitate receiving certification as a low-impact hydroelectric project by the Low Impact Hydroelectric Institute (LIHI). Upon the execution of the Agreement, the Service will provide a supporting letter for the ECRE application to LIHI within three weeks of signing.

1.3 Agency Appropriations

Nothing in this Agreement shall be construed as obligating the Service to expend in any fiscal year any sum in excess of appropriations made by Congress to state or local legislatures or administratively allocated for the purpose of this Agreement for the fiscal year or to involve the Service in any contract or obligation for the future expenditure of money in excess of such appropriations or allocations.

1.4 Establishes No Precedents

The Parties have entered into the negotiations and discussions leading to this Agreement with the explicit understanding that all discussions relating thereto are privileged, shall not prejudice the position of any Party or entity that took part in such discussions, and are not to be otherwise used in any manner in connection with these or any other proceedings. The Parties understand and agree that this Agreement establishes no principles or precedents with regard to any issue which is not addressed herein or with regard to any Party's participation in future

relicensing proceedings unrelated to the agreements set forth herein and that none of the Parties to this Agreement will cite this as establishing any principles or precedents except with respect to the matters to which the Parties have herein agreed.

1.5 Binding Effect

This Agreement shall be binding on the Parties and on their successors and assigns.

1.6 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

2.0 BACKGROUND

Various wholly owned subsidiary companies of ECRE have acquired the ownership interests in several of the hydroelectric generation projects located in the State of New Hampshire which were previously owned or leased by Algonquin Power Systems. These projects are Mine Falls Project (FERC No. 3442) on the Nashua River; Gregg Falls Project (FERC No. 3180) on the Piscataquog River; Webster-Pembroke Project (FERC No. 3185) on the Suncook River; and the Lakeport Project (FERC No. 6440), Lochmere Project (FERC No. 3128) and Stevens Mills Project (FERC No. 3760) (which includes both Stevens Mills and Riverbend facilities projects on the Winnepesaukee River [each a "Project" or "Facility" and collectively "Projects" or "Facilities"]). These purchases were consummated on June 29, 2013. ECRE is also in the process of evaluating the acquisition of the Clement Project (FERC No. 2966), also located on the Winnepesaukee River.

The Projects acquired by ECRE have either a License or an Exemption from Licensing issued by the Federal Energy Regulatory Commission (FERC). Those licenses and exemptions include various requirements for Project operations, including bypass flow releases, and for providing fish passage when needed. The Service has identified fish passage needs at many of the subject projects. In addition, in order to address low impact hydropower certification criteria established by LIHI, ECRE needs to consult with the Service on project operations and flow releases in addition to fish passage.

ECREM is the entity within the Eagle Creek group of companies that manages the operations on behalf of and as agent for various project companies owned by ECRE. Since the acquisition of these assets, ECREM has worked in cooperation with the Service and other agencies to improve fish passage and prevent fish kills at several of its hydro projects in New Hampshire and elsewhere.

ECREM leadership has had a long history of cooperation with the Service and other agencies regarding fish passage and is keenly aware of the benefits provided to the public from such enhancements. ECREM seeks to maintain a cooperative relationship with the Service, and therefore is entering into this Agreement in support of the program goals established by the Service and other resource agencies.

3.0 GENERAL AGREEMENTS OF THE PARTIES

3.1 Reopeners

The Parties agree that, except as provided herein, this Agreement is not intended to limit or restrict the ability of any Party to petition FERC pursuant to any reopener condition contained in any license, including any exercise by the Secretary of the Department of the Interior relating to her/his fishway prescription authority under §18 of the Federal Power Act. No such petition, including the exercise of §18 authority, may be filed without the filer's providing at least 60 days written notice of its intention to do so to all the other Parties and, promptly following the giving of notice, consulting with the other Parties regarding the need for and the purpose of the petition. In the event such a petition is filed, the filing Party shall include with its filing documentation of its consultation with the other Parties, a summary of their recommendations and of its response to those recommendations. The filing Party shall also serve a copy of its petition to all other Parties.

The Parties agree that nothing in this Agreement is intended to limit or restrict the ability of any Party to seek an amendment to this Agreement during the effective period of the license or as long as an exempted project is operated. Any Party proposing such an amendment to this Agreement shall provide all Parties with at least 60 days written notice of the proposed amendment using updated addresses as needed. If the amendment would require modification of the license or any other permit, the Licensee shall file all applications to amend any license or permits necessary to effectuate the agreed-upon changes, and the other Parties will support such efforts. An amendment to this Agreement shall be effective only upon the written consent of all Parties to this Agreement.

3.2 Compliance with the Endangered Species Act

As of July 1, 2014, the Service has determined that, based on the information available as of that date, except for occasional transient individuals, no Federally listed or proposed endangered or threatened species under the Service jurisdiction are known to exist in the Projects' impact areas. In addition, no habitat in the Projects' impact areas is currently designated or proposed "critical habitat" in accordance with provisions of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). Therefore, no further

Endangered Species Act coordination or consultation with the Service is required at this time. Should Project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered.

4.0 ENVIRONMENTAL ENHANCEMENT MEASURES

4.1 Bypass Flows

ECREM shall, for the protection and enhancement of fish and aquatic habitat, provide continuous minimum flows to the bypass reaches of each Project as established in consultation with and approved by the Service, in accordance with the schedule in Appendix A. Once the Service has approved these flow regimes and the LIHI has formally approved Eagle Creek's LIHI application for the subject Facilities, ECREM will implement the agreed upon continuous minimum bypass flows. The flow requirements may be modified in the future as appropriate to address the effective operation of upstream fish passage facilities.

4.2 Flow Monitoring

ECREM shall, within six (6) months from the effective date of the Agreement, prepare and file for approval by the Service, an Operations and Flow Monitoring Plan for monitoring run-of-river operation and bypassed reach flow releases from the Projects. The Plan also should incorporate a description of the refill protocol that will be followed and how run-of-river operation and bypass flow releases will be provided during periods when the head pond is drawn down for dam maintenance. The Plan shall include a description and design of the mechanisms and structures that will be used, including any periodic maintenance and/or calibration necessary to ensure the devices work properly. In addition, a plan for recording data on Project operations to verify proper operations and minimum flow releases, and for maintaining such data for inspection by the Service and other resource agencies, also shall be filed. The operations and flow monitoring plan shall be developed in consultation with, and require approval by the Service.

4.3 Fish Passage

ECREM agrees to implement the activities related to fish passage at the Projects as described in Appendix A of this Agreement. The implementation of these activities will be performed in accordance with the schedule set forth in Appendix A or as mutually agreed upon between ECREM and the Service.

The proposed enhancements will consist of structural changes to provide for upstream passage at the Mines Falls Project, and exclusion and safe and effective downstream passage of river herring and/or American eel or seasonal Project shutdowns of the Project turbines, combined

with a safe egress route, or potentially a combination of both measures at all Projects. For some of the Projects, the fish passage measures have been agreed to, whereas in others, the passage measures have yet to be proposed by ECREM or reviewed by the Service. For these, Appendix A establishes a process timeline to determine the appropriate passage measures.

For all proposed structural fish passage measures, ECREM shall provide the Service with functional design drawings of proposed facilities for its review and approval.

A. Upstream Passage at Mines Falls

ECREM will develop design plans and a construction schedule for the rehabilitation of and improvements to the Mines Falls fish lift system for Service approval and filing with FERC. Appendix A identifies the schedule for submittal of the plans and a proposed construction completion date. The target construction date is April 1, 2015. However, based on the timing of design plan development, time for review and Service approval, and the complexity and extent of necessary construction, that date may need to be adjusted based on mutual agreement between ECREM and the Service.

B. American Eel Silver Eel Passage

In general, the measures to protect adult silver eels during outmigration are either:

- (1) cessation of Project operation from dusk to dawn from August 15 through November 15, annually. Future refinement of the timing and other conditions (such as flow, weather conditions, etc.) that drive the downstream movement may be made by the Service, with concurrence by ECREM, as information on the behavior of migrants at the Projects is obtained. The nightly protocol at some Projects shall include closing or screening the headgates, as agreed upon with ECREM, to prevent eels from becoming trapped in the forebay. A downstream bypass sluice shall be opened to provide a minimum fish bypass flow (needed flows to be determined for each site); or
- (2) operation of a passage and protection system that meets the following criteria:
 - i. a full depth trashrack/screen system with $\frac{3}{4}$ -inch-clear spacing and a desired approach velocity equal to or less than 1.5 feet per

second,¹ in conjunction with a bypass sluice or lower level gate of sufficient size and passing a sufficient flow (to be determined during the designing of the facilities); and

- ii. the downstream passage and protection system shall be designed in consultation with, and require approval by the Service and filed with FERC. The system shall operate annually from August 15 through November 15. Future refinement of the timing and other conditions (such as flow, weather conditions, etc.) that drive the downstream movement may be made by the Service, with concurrence by ECREM, as information on the behavior of migrants at the Projects is obtained.

C. River Herring Downstream Passage

ECREM shall construct, operate and maintain downstream fish bypass passage facilities for adult and juvenile river herring in all years when river herring have been stocked upstream of the Projects. The downstream fish passage measures for downstream river herring passage may be the same as measures implemented for American eels.

The downstream passage facilities shall consist of measures to protect downstream river herring from impingement and/or entrainment, as well as bypass facilities to assist fish in moving safely past the Projects. Final design and construction of the protection system shall occur in consultation with, and require approval by the Service and shall be filed with FERC.

If the downstream bypass facility is deemed ineffective based on evaluations by the Service and ECREM, ECREM shall be required to submit a proposal for amended designs or other measures for approval by the Service within six (6) months of the effectiveness determination.

D. Interim Passage Measures

In the interim periods between execution of the Agreement and the implementation of measures specified in the Agreement and Appendix A, interim passage measures for river herring and American eel will be implemented at the Projects as specified in Appendix A. Interim measures will consist of nighttime shutdowns on the day of and for three consecutive days after a rain event or river flow increase resultant from Lake Management activities by New Hampshire Department of Environmental Services. Initial operational shutdown periods will be from dusk to dawn during the passage season, but the Service and ECREM will cooperatively

¹ Site configuration and Project works of individual Projects may preclude the attainment of this criteria. In that event, the Service will consider a variance to this criteria based on review of the overall Project passage plan.

work together to determine the extent of nighttime shutdowns, taking into account downstream migrant needs and Project operations.

4.4 Fish Passage Facilities Operations and Maintenance Plans

ECREM shall develop and implement a Fish Passage Facilities Operations and Maintenance Plan for each Project with fish passage provisions identified in Appendix A. The plans shall detail how and when the upstream and downstream fishways will be operated and describe routine maintenance activities that will occur both during and outside of the fish passage seasons. The Plan shall be developed in consultation with, and require approval by the Service. The approved Plan shall be in effect prior to the first passage facilities coming on-line, and shall be updated as needed as new passage facilities are placed into service and based on information obtained from operation of the facilities.

4.5 Fish Passage Monitoring and Modifications

ECREM agrees to cooperate with the Service on the evaluation of the effectiveness of the adopted fish passage measures, and agrees to implement reasonable modifications to the passage facilities and their operation in order to provide for safe, timely and effective passage of diadromous fish.

5.0 SUPPORT OF LIHI CERTIFICATION

The Service agrees to support ECREM in its efforts to secure certification from LIHI for the Facilities. In the event that LIHI approval is not achieved for a specific site or sites, ECREM will be relieved of the non-fish passage Agreement obligations as they pertain to the specific site or sites. If ECREM fails to implement the provision of continuous bypass flows and/or fish passage enhancements for a specific site or sites to the satisfaction of the Service, the Service will notify ECREM of such failure, and ECREM will have 60 days to resolve the matter to the satisfaction of the Agencies. If the Service then determines that ECREM has not resolved the matter in question, the Service may terminate this Agreement, upon 10 days' notice to ECREM for the site that has failed to meet the approval of the Agencies. Upon such termination, no Party shall have any further obligation to any other Party with respect to the site in question.



The parties hereby indicate their agreement to the terms above:

Eagle Creek RE Management, LLC

By: 

Title: SVP Operations

Date: 8-14-14

United States Fish and Wildlife Service

By: 


Title: Assistant Fish Supervisor

Date: 8/14/14

EAGLE CREEK RE, LLC

APPENDIX A

FINAL MOA

USFWS Signature: 

Date: 8/14/14

ECREM Signature: 

Date: 8/14/14

FACILITY	IMPLEMENT DOWNSTREAM PASSAGE*	IMPLEMENT UPSTREAM PASSAGE	COMPLETE MINIMUM FLOW REVIEW	TARGET SPECIES	PROPOSED ENHANCEMENTS**
LAKEPORT	2014	REVIEW IN 2020	Adequate Flows Exist	AMERICAN EEL	3/4-Inch rack overlays w/eel collection box & discharge pipe to plunge pool. Consult w/FWS on permanent racks.
				RIVER HERRING	None Needed.
LOCHMERE	2015	REVIEW IN 2020	2014	AMERICAN EEL	3/4-inch exclusionary trashracks at the canal headworks with open sluice gate at dam and plunge pool.
				RIVER HERRING	3/4-inch rack and bypass structure for eels. Additional angled floating diversion boom ~ 3 foot skirt.
					Secondary Intake trashrack and diversion box and pipe to tailrace. Existing facility to be modified.
				BYPASS FLOWS	Perform study of habitat and river needs for bypass reach by December 1, 2014.
CLEMENT	2015	REVIEW IN 2020	2015	AMERICAN EEL	Exclusionary trashracks at headworks (ECREM will evaluate 3/4-inch rack spacing), bypass sluice and plunge pool.
				RIVER HERRING	Exclusionary trashracks at dam headworks (ECREM will evaluate 3/4-inch rack spacing), an angled floating diversion boom ~ 3 foot skirt, bypass sluice and plunge pool.
RIVERBEND	2015	REVIEW IN 2020	2015	AMERICAN EEL	Evaluate required trashrack length for hydro operations. 3/4-Inch exclusionary trashrack overlays or angled racks.
					Modify trashgate at dam, set flow requirement and provide plunge pool as needed.
				RIVER HERRING	3/4-inch exclusionary or angled racks. Modify trashgate at dam & set flow requirement. Plunge Pool as needed.
STEVENS MILLS	2015	REVIEW IN 2020	2014	AMERICAN EEL	3/4-inch exclusionary trashracks.
				RIVER HERRING	3/4-inch exclusionary trashracks. Angled surface diversion boom.
PEMBROKE	See Detail	REVIEW IN 2020	2014	RIVER HERRING	2014 - operate sluice gate at trashracks during outmigration in consult with FWS and NHFGD & review bypass gate, intake velocities & trashracks for permanent passage measure. Modifications to facilities as needed by September 1, 2015.
				AMERICAN EEL	Eel downstream passage measures within 48 months of notification by NHFGD and/or USFWS.
				BYPASS FLOWS	Perform study of habitat and river needs for bypass reach by December 1, 2014.
GREGG'S FALLS	See Detail	REVIEW IN 2020	2014	RIVER HERRING	Discontinue use of salmon smolt downstream fishway.
				AMERICAN EEL	Eel Downstream Passage measures within 48 months of notification by NHFGD and/or USFWS.
					Continue Instantaneous Run of River Operations. Set allowable water level fluctuations.
				BYPASS FLOWS	Minimum flows from dam not likely needed. Verify adequacy of flows below dam in 2014.
MINES FALLS	2015	2015	2014	RIVER HERRING	Provide downstream diversion boom either at the canal headworks or at the intake. Provide a plunge pool for downrunning fish if released out of trash sluice. Move or eliminate downstream pipe.
					Fish lift drawings to USFWS by 11-1-14. Construction target April 1, 2015, but no later than September 1, 2015.
	2016			AMERICAN EEL	Downstream eel passage measures will be needed. Review eel downstream passage alternatives with Agencies in 2014.

* Intake eel passage measures for Lakeport, Lochmere, River Bend and Stevens Mills will consist of nighttime shutdowns from dusk to dawn (or as agreed upon with the USFWS) for three consecutive days after rain event or after increased flows during the eel migration period (August 15 through November 15).


** Identified structural passage measures for eels may be replaced by operational shutdowns after analysis of information. All fish passage facilities and other measures to be designed in consultation with and be approved by the USFWS. Operational shutdowns will be evaluated based on the following criteria: Species, Time of Year, Economics, Weather Conditions.

EAGLE CREEK RE, LLC

APPENDIX A

REVISED FINAL MOA

USFWS Signature: 

ECREM Signature: 

FACILITY	IMPLEMENT DOWNSTREAM PASSAGE*	IMPLEMENT UPSTREAM PASSAGE	COMPLETE MINIMUM FLOW/ BYPASS FLOW	TARGET SPECIES	PROPOSED ENHANCEMENTS**
LAKEPORT	Completed 7/29/2015	REVIEW IN 2020	Adequate Flows	AMERICAN EEL	3/4" trash rack overlays w/eel collection box & discharge pipe to plunge pool. Consult w/FWS on permanent racks - Eel collection box was installed and operational during the 2015 eel passage season. ECREM will continue to work in cooperation with Service / NH F&G in 2017 to improve or make modifications to the operation of the eel passage and trapping facilities. Per discussion with Service/NHF&G discharge pipe and plunge pool are not required at this time. Based on input from Service/NHF&G gaps in existing racks and overlay panels were repaired/closed by ECREM in Fall 2015. Overlay racks are in an aged condition. ECREM plans to replace the existing racks and overlay panels with new rack panels with 3/4" clear openings within the normal capital program (not an MOA driven item).
				RIVER HERRING	None Needed.
LOCHMERE	Completed 8/2016	REVIEW IN 2020	2015	AMERICAN EEL	Design change based on consultation with Service/ NH F&G includes 3/4" exclusionary trash racks within the canal to transition chute from opening in racks to new gate at existing penetration in canal wall to new pool and HDPE pipe to former auxiliary unit tailrace. NHDES Wetland Permit received 11/2015, purchased/delivered fabricated pieces 2015 & 2016, FERC approval received 4/2016, completed pre-bid meeting 4/27/2016, construction bids due 5/10/2016, construction planned for June/July 2016 and are planned to be operational by August 15, 2016.
				RIVER HERRING	3/4" rack and bypass structure for eels. See above for modified scope of work for American eel and river herring.
			Completed 7/29/2015	BYPASS FLOWS	Perform study of habitat and river needs for bypass reach by December 1, 2014. Performed flow demonstration with Service/NHF&G and agreed existing bypass flows of 35 cfs (10/1 to 3/31) and 50 cfs (4/1 to 9/30) are sufficient.
CLEMENT	Completed 8/2016	REVIEW IN 2020	Adequate Flows	AMERICAN EEL	Exclusionary trash racks at dam headworks (ECREM will evaluate 3/4" rack spacing), bypass sluice and plunge pool Agreed up on final design with USFWS & NHF&G includes exclusionary trash racks with 3/4" spacing at unit intake, modifications to waste gate at spillway, plunge pool and conveyance channel to be installed, NHDES Wetland Permit received 1/2016, purchased/delivered fabricated pieces 2015/2016, FERC approval received 4/2016, exclusionary trash rack installation to be completed 5/2016, remainder of items to be completed and operational by 8/15/16.
				RIVER HERRING	Exclusionary trash racks at dam headworks (ECREM will evaluate 3/4" rack spacing). Final design approved based on discussions with Service / NH F&G, see above.
					Install boom with 4 foot skirt.

FACILITY	IMPLEMENT DOWNSTREAM PASSAGE*	IMPLEMENT UPSTREAM PASSAGE	COMPLETE MINIMUM FLOW/ BYPASS FLOW	TARGET SPECIES	PROPOSED ENHANCEMENTS**
RIVERBEND (river left-looking downstream)	Completed 8/2016	REVIEW IN 2020	Adequate Flows	AMERICAN EEL	Agreed upon final design with Service / NHF&G includes exclusionary trash rack overlay panels at Unit 1 intake, blocking racks perpendicular to flow at Unit 3 intake, modifications to existing sluice gate, plunge pool and conveyance channel to be installed, NHDES Wetland Permit received 1/2016, purchased/delivered fabricated pieces 2015/2016, FERC approval received 4/2016, to be completed by 8/15/16.
					Modify trash gate at dam, set flow requirement and provide plunge pool as needed. See above.
				RIVER HERRING	Modify trash gate at dam & set flow requirement. Plunge Pool as needed. See above.
STEVENS MILLS (river right)	Completed 8/2016	REVIEW IN 2020	Adequate Flows	AMERICAN EEL	3/4" Exclusionary trash racks. See Riverbend above.
				RIVER HERRING	3/4" Exclusionary trash racks. See Riverbend above for trash racks. The potential need for an angled surface boom will be evaluated based on observations of the operation of the new fish passage facilities.
PEMBROKE	See Detail	REVIEW IN 2020	2015	RIVER HERRING	2016 - Based on consultation and agreement with USFWS, installed a plunge pool and discharge on the downstream side of the wastegate adjacent to the trashracks at the end of the canal similar to the arrangement used in years past to accommodate downstream herring passage. 2017- Review trash gate, intake velocities and trash racks for permanent passage measures.
				AMERICAN EEL	Eel Downstream Passage measures within 48 months of notification by NHFGD and/or USFWS
			Initial Review Completed 7-29-15 2nd Assessment by Sept 2017	BYPASS FLOWS	Perform study of habitat and river needs for bypass reach by December 1, 2014. On 7-29-2015, based on field testing and observations with Service /NHF&G, the minimum flow was changed from FERC license required 10 cfs to 25 cfs, no further modifications are required pending additional assessment of flow to be completed by Nov 2016 with use of 8x8 drain gate and the repaired Obermeyer gate. Due to drought conditions, delay completion of flow assessment to September 2017.
GREGG'S FALLS	See Detail	REVIEW IN 2020	Completed 7/29/15	RIVER HERRING	Discontinue use of Salmon Smolt downstream fish way Use of Salmon Smolt Downstream Fish way officially discontinued 7/29/2016.
				AMERICAN EEL	Eel Downstream Passage measures within 48 months of notification by NHFGD and/or USFWS
					Continue Instantaneous Run of River Operations. Set allowable water level fluctuations. ECREM is monitoring operations to ensure instantaneous run of river operations.
				BYPASS FLOWS	Minimum flows from dam not likely needed - Verify adequacy of flows below dam in 2014. Existing 20 cfs min flow is adequate based on 7/29/2015 site visit with Service / NHF&G.

APPENDIX E

NHDES WATER QUALITY LETTER

From: [Walsh, Ted](#)
To: [Shannon Ames \(sames@lowimpacthydro.org\)](#)
Cc: [Comstock, Gregg](#); [Susan Giansante](#); [eanderson@essexhydro.com](#); [MaryAlice Fisher \(mfischer@lowimpacthydro.org\)](#); [Magee, John](#); [Henderson, Carol](#); [julianne_rosset@fws.gov](#)
Subject: Stevens Mill Hydroelectric Project - Winnepesaukee River - Water Quality Results re LIHI Certification
Date: Monday, November 19, 2018 9:36:20 AM
Attachments: [20181119 Stevens Mill LIHI Franklin WIN_WQ Results.pdf](#)

Shannon,

The attached letter is NHDES's assessment of the water quality status of the Winnepesaukee River in the vicinity of the Stevens Mill Hydroelectric Project in Franklin, NH. For the purposes of certification from the Low Impact Hydropower Institute, NHDES was asked to determine if the project is causing or contributing to violations of state water quality standards.

Based on the current operation of the dam, current water quality standards, the water quality data collected and information provided to DES by Eagle Creek Renewable Energy, the Winnepesaukee River in the vicinity of the Stevens Mill Hydroelectric Project is attaining water quality standards at this time.

NHDES concurs with the recommendations and assessments of the U.S. Fish and Wildlife Service and New Hampshire Fish and Game.

If you require additional information or assistance, please contact me.

Ted Walsh

Ted Walsh
Surface Water Monitoring Coordinator
New Hampshire Department of Environmental Services
Watershed Management Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03301-0095
(p) 603-271-2083
(F) 603-271-7894
email: twalsh@des.state.nh.us



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES



Robert R. Scott, Commissioner

November 19, 2018

Shannon Ames, Executive Director
Low Impact Hydropower Institute
34 Providence Street
Portland, Maine 04103

RE: Water Quality Status of the Winnepesaukee River for Low Impact Hydropower Institute Certification of the Stevens Mill Hydroelectric Project (FERC License No. 3760) Winnepesaukee River – Franklin, NH

Dear Ms. Ames:

The New Hampshire Department of Environmental Services (NHDES) understands that Eagle Creek Renewable Energy (ECRE) has applied for Low Impact Hydropower Certification from the Low Impact Hydropower Institute (LIHI) for the Stevens Mill Hydroelectric Project (FERC Exemption No. 3760), on the Winnepesaukee River in Franklin, NH. We further understand that in July of 2015 LIHI granted certification to the Stevens Mill Hydroelectric Project subject to specific provisions. One of these provisions stated that:

"To enable NHDES to make a determination of Project compliance with New Hampshire quantitative water quality standards, the facility owner shall complete water quality sampling during summer 2015 following a study plan approved by NHDES. By December 31, 2015, the facility owner shall provide LIHI with a letter from NHDES documenting NHDES's review and conclusions. If NHDES determines that structural or operational changes are necessary to meet water quality standards, the facility owner will provide LIHI with a proposed implementation schedule at the same time it files the NHDES letter."

Since July of 2015 ECRE has received time extensions from LIHI for the required submittal of water quality data.

On October 17, 2013, NHDES issued a letter outlining what would be needed to determine if the Winnepesaukee River in the vicinity of the Stevens Mill Hydroelectric Project was or was not attaining water quality standards. The letter stated that "In order for NHDES 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 and thresholds;
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 the data and information received from ECRE in response to our letter of August 9, 2013 and our conclusions as to whether or not the Stevens Mill Hydroelectric Project is complying with New Hampshire surface water quality standards in the Winnepesaukee River.

Water quality data was collected for dissolved oxygen, water temperature, total phosphorus, and chlorophyll-a. Monitoring locations in the upstream impoundment (02T-WIN), in the bypass reach (02F-WIN) and in the downstream tailrace section of the river (02B-WIN) were monitored continuously for water temperature and dissolved oxygen using multi-parameter dataloggers in 2016. NHDES specified that the multi-parameter continuous water quality data should be collected under critical low flow ($< 3 \times 7Q_{10}$) and higher water temperature conditions ($> 23^{\circ}\text{C}$). There is a USGS stream gage (# 01081000) on the Winnepesaukee River in Tilton, NH approximately four miles upstream from the Stevens Mill Hydroelectric Project. NHDES uses this gage as a surrogate to estimate low flow conditions in the vicinity of the project. From September 14 – September 23, 2016 a datalogger was deployed in the upstream impoundment (02T-WIN), in the bypass reach (02F-WIN) and in the downstream tailrace section of the river (02B-WIN). Flow was below the target conditions of $3 \times 7Q_{10}$ (108 cfs) on all occasions and water temperature ranged from 19.5°C to 23.5°C . The minimum water quality standard of 5 mg/L for dissolved oxygen was met on all days at all three stations.

Between July and September 2013, ten weekly samples of total phosphorus and chlorophyll-a were collected at stations located in the Stevens Mill dam impoundment (02T-WIN) and in the bypass reach downstream of the dam (02P-WIN).

NHDES has assessed the water quality data collected in 2013 and 2016 and based on this assessment concludes that the water quality in the impoundment, in the bypass reach, and downstream of the project under the project operating conditions and flow conditions during which the data was collected, is meeting existing water quality criteria or thresholds for dissolved oxygen, total phosphorus and chlorophyll-a. At the time of the deployment and retrieval of the dataloggers in 2016 a vertical profile of dissolved oxygen and water temperature was measured in the upstream impoundment (02T-WIN), in the bypass reach (02F-WIN) and in the downstream tailrace section of the river (02B-WIN) to determine if thermal stratification was present. The vertical profiles collected at all three stations indicate that the river was not thermally stratified on the date the profile was taken.

In the October 17, 2013 letter NHDES provided the assessment status for the parameters of concern for the reaches of the Winnepesaukee River upstream and downstream of the Stevens Mill Hydroelectric Project. Table 1 provides an update to the current assessment status of the river reaches in question for the parameters collected in 2013 and 2016. The assessments are based on the methodology described in the NHDES 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 NHDES in 2018. Please note that the assessment status listed in Table 1 could change if water quality criteria or thresholds change and/or if additional data indicate water quality violations. For example, data collected at lower flows and/or higher temperatures might result in a different assessment.

¹ NHDES. 2016. Section 305(b) and 303(d) Consolidated Assessment and Listing Methodology. NH Department of Environmental Services, Watershed Management Bureau, Concord, NH

Table 1. Assessment Status for Water Quality Monitoring Parameters: Stevens Mill Hydroelectric Project

Assessment Unit and Monitoring Station	Location	Parameter	Designated Use	Assessment Status based upon 2013 and 2016 sampling
NHIMP700020203-06 02T-WIN	Stevens Mill Dam Impoundment	Dissolved Oxygen (mg/L)	Aquatic Life	Fully Supporting
		Dissolved Oxygen (% Sat.)	Aquatic Life	Fully Supporting
		Chlorophyll-a	Primary Contact Recreation	Fully Supporting
			Aquatic Life	Potentially Supporting ^A
		Total Phosphorus	Aquatic Life	Indeterminate ^A
		Water Temperature	Aquatic Life	No numeric criteria ^C
NHRIV700020203-07 02P-WIN	Stevens Mill Dam Bypass Reach	Chlorophyll-a	Primary Contact Recreation	Fully Supporting
		Total Phosphorus	Aquatic Life	Indeterminate ^A
NHIMP700020203-07 02F-WIN 02B-WIN	Stevens Mill Dam Bypass Reach	Dissolved Oxygen (mg/L)	Aquatic Life	Fully Supporting
	Downstream of Webster-Pembroke Hydroelectric Project– Tailrace	Dissolved Oxygen (% Sat.)	Aquatic Life	Fully Supporting
		Water Temperature	Aquatic Life	No numeric criteria ^C

^A NHDES does have numeric water quality thresholds 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 threshold comparison. The aquatic life designated use nutrient and chlorophyll-a thresholds are depicted below with the median values for each parameter for the data collected at station 02T-WIN in assessment unit NHIMP700020203-06 during the summer of 2013.

	TP (ug/L)	Chl-a (ug/L)
Median 02T-WIN (2013)	0.010	1.11
Median 02F-WIN (2013)	0.010	1.03
Oligotrophic	< 8	< 3.3
Mesotrophic	≤ 12	≤ 5
Eutrophic	≤ 28	≤ 11

^B NHDES 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 summary, based on the current operation of the facility, current water quality standards, water quality data collected in 2013 and 2016 and information provided to NHDES by ECRE, the Winnepesaukee River immediately upstream and downstream of the Stevens Mill Hydroelectric Project is meeting water quality standards or thresholds for dissolved oxygen, total phosphorus and chlorophyll-a under the conditions during which the data was collected. As previously noted, the above water quality assessment could change in the future should a change in water quality criteria or thresholds and/or new data indicate water quality violations or the potential for water quality violations.

November 19, 2018

Page 4 of 4

Should you have any questions or require additional information please contact me at (603) 271-2083 or ted.walsh@des.nh.gov.

Sincerely,

A handwritten signature in dark ink, appearing to read "Ted Walsh", written in a cursive style.

Ted Walsh, Surface Water Monitoring Coordinator
NHDES Watershed Management Bureau

Cc (via email):

Sue Giansante, Eagle Creek Renewable Energy

Elise Anderson, Essex Hydro

Maryalice Fisher, Low Impact Hydropower Institute

Carol Henderson, NHFG

John Magee, NHFG

Julianne Rosset, USFWS

APPENDIX F

USFWS IPAC REPORT



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
<http://www.fws.gov/newengland>



In Reply Refer To:

February 25, 2020

Consultation Code: 05E1NE00-2020-SLI-1541

Event Code: 05E1NE00-2020-E-04438

Project Name: Stevens Mill Hydroelectric Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2020-SLI-1541

Event Code: 05E1NE00-2020-E-04438

Project Name: Stevens Mill Hydroelectric Project

Project Type: DAM

Project Description: For LIHI Recertification

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/43.445802804728146N71.64753865395454W>



Counties: Merrimack, NH

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

APPENDIX G

MINIMUM FLOW COMPLIANCE LETTERS (2015 – 2016)



Via Electronic Filing

March 4, 2016

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

**RE: Eagle Creek Renewable Energy (ECRE)
Minimum Flow Compliance - 2015**

Project:

Beaver Falls Upper FERC No. P-2593-NY
Beaver Falls Lower FERC No. P-2823-NY
Phoenix FERC No. P-4113-NY
Newport FERC No. P-5196-NY
Great Falls FERC No. P-2814-NJ
Clement FERC No. P-2966-NH
Gregg's Falls FERC No. P-3180-NH
Lakeport FERC No. P-6440-NH
Lochmere FERC No. P-3128-NH
Mine Falls FERC No. P-3442-NH
Newfound FERC No. P-3107-NH
Stevens Mill FERC No. P-3760-NH
Webster-Pembroke FERC No. P-3185-NH

Licensee:

Algonquin Power (Beaver Falls)
Algonquin Power (Beaver Falls)
Oswego Hydro Partners
Newport Hydro Associates
Great Falls Hydro
Clement Dam Hydroelectric
Hydro Associates
Lakeport Hydro Corporation
HD1 Associates I Partnership
Mine Falls Limited Partnership
KTZ, Hydro
Franklin Power
Pembroke Hydro Associates

Dear Secretary:

On behalf of the Licensee, Eagle Creek Renewable Energy is hereby submitting notice of minimum flow compliance for the projects listed above.

2015 Minimum Flow Verification – Operating personnel have reported and verified the minimum flow was maintained at all times from **January 1, 2015 to December 31, 2015** for all projects listed above.

The Commission issued a letter to the previous license holder (Algonquin Power) dated April 9, 2013 acknowledging the receipt of the annual compliance report and determined that there is no license requirement for these annual statements to be filed with the Commission and the practice can be discontinued.

The licensee respectfully requests confirmation from the Commission that the annual compliance report is not a license requirement for the projects listed above. If the annual compliance report is indeed not an annual requirement, the licensee requests the annual verification to be discontinued.



In the event of a deviation from one or more of the license requirements, the licensee will file a report with the Commission within 30 days of when the deviation is reported.

Should you have any questions regarding this matter please do not hesitate to contact Ms. Melissa Rondou in the Eagle Creek Renewable Energy offices by telephone at (920)293-4628 – Ext. 347 or e-mail at melissa.rondou@eaglecreekre.com.

Sincerely,
Eagle Creek Renewable Energy
Agent for Licensee

A handwritten signature in blue ink, appearing to read "Robert A. Gates", is written over a faint circular stamp.

Mr. Robert A. Gates
Executive Vice President of Operations

CC: Ken Kemp, CDSO
Mark Sherbino, OPS
16-03-04_ECRE_NNY-NH_Minimum Flow Verification

FEDERAL ENERGY REGULATORY COMMISSION
Washington, D. C. 20426

OFFICE OF ENERGY PROJECTS

Project No. 2593-003- Beaver Falls Upper-NY
Project No. 2823-017- Beaver Falls Lower-NY
Project No. 4113-065-Phoenix-NY
Project No. 5196-009-Newport-NY
Project No. 2814-004-Great Falls-NJ
Project No. 2966-011-Clement Dam-NH
Project No. 3180-008-Gregg's Falls-NH
Project No. 6440-007-Lakeport-NH
Project No. 3128-005-Lochmere Dam-NH
Project No. 3442-025-Mine Falls-NH
Project No. 3107-004-Newfound-NH
Project No. 3760-014-Stevens Mill Dam-NH
Project No. 3185-004-Webster-Pembroke-NH

March 18, 2016

Robert Gates, SVP
Eagle Creek Renewable Energy
116 N State Street
Neshkoro, WI 54970

Subject: Confirmation of No Requirement to File Annual Minimum Flow Compliance Report

Dear Mr. Gates:

This acknowledges receipt of your annual Minimum Flow Compliance Report filed with the Federal Energy Regulatory Commission (Commission) on March 4, 2016, for the above listed projects. The report was filed on behalf of the projects' licensees¹ and exemptees by Eagle Creek Renewable Energy. You stated in your filing that the

¹ Project No. 2593-Algonquin Power (Beaver Falls), Project No. 2823-Algonquin Power (Beaver Falls), Project No. 4113-Oswego Hydro Partners, Project No. 5196-Newport Hydro Associates, Project No. 2814-Great Falls Hydro, Project No. 2966-Clement Dam Hydroelectric, Project No. 3180-Hydro Associates, Project No. 6440-Lakeport Hydro Corporation, Project No. 3128-HD1 Associates I Partnership, Project No. 3442-Mine Falls Limited Partnership, Project No. 3107-KTZ, Hydro, Project No. 3760-Franklin Power, and Project no. 3185-Pembroke Hydro Associates

Project No. 2593-003 et al.

- 2 -

Commission issued a letter on April 9, 2013, stating that you were not required to file an annual Minimum Flow Compliance Report for the Beaver Falls Project No. 2593 and the Great Falls Project No. 2814 which are two of the projects listed in the March 4 filing. You requested confirmation from the Commission that the annual compliance report is not a requirement for the 13 projects listed in the filing. Upon review of the project exemptions, licenses, and subsequent Commission orders, we have determined that **there are no requirements for you to file these annual statements with us** for these 13 projects; therefore, you may discontinue that practice.

As you are aware, it is your responsibility to ensure compliance with all requirements. However, in the event of a deviation from one (or more) of the license requirements, you should file a report with the Commission within 30 days of the date the data become available indicating a deviation. The report should describe the cause, duration, and immediate actions taken to correct the deviation. Your report should also include a description of any adverse environmental impacts that resulted from the incident and any long-term (non-immediate) actions that you plan to take to ensure future compliance. If we do not receive any such reports from you or from other entities, then we will accept that as your continued compliance with the requirement. Please be aware that you may still be required to file annual reports with the resource agencies as per their request or requirement.

Thank you for your cooperation. If you have any questions regarding this matter, please contact Michael Calloway at (202) 502-8041 or michael.calloway@ferc.gov.

Sincerely,

(for) Thomas J. LoVullo
Chief, Aquatic Resources Branch
Division of Hydropower
Administration and Compliance