Piercefield Hydroelectric Project

Certification Application to the Low Impact Hydropower Institute

FERC Project No. 7387



Prepared by: ERIE BOULEVARD HYDROPOWER, L.P. Potsdam, New York

TABLE OF CONTENTS

INTRODUCTION

PART I. FACILITY DESCRIPTION

PART II. STANDARDS SELECTION

PART III. SUPPORTING INFORMATION

PART IV. SWORN STATEMENT AND WAIVER

PART V. CONTACTS

APPENDICES

APPENDIX A – PIERCEFIELD PROJECT ZONES OF EFFECT

APPENDIX B – PHOTOS OF KEY PROJECT FEATURES

APPENDIX C – PROJECT MAPS AND AERIALS

APPENDIX D – CONSULTATION REGARDING 401 WATER QUALITY CERTIFICATE

APPENDIX E – AGENCY CONSULTATION REGARDING RARE, THREATENED AND ENDANGERED SPECIES

INTRODUCTION

Erie Boulevard Hydropower, L.P. (Erie), a wholly owned subsidiary of Brookfield Renewable, is providing this application to the Low Impact Hydropower Institute (LIHI) for certification of the Piercefield Hydroelectric Project. The Piercefield Hydroelectric Project is located on the Raquette River near the Town of Piercefield in Franklin and St. Lawrence Counties. This facility is licensed with the Federal Energy Regulatory Commission (FERC) as the Piercefield Hydroelectric Project (FERC No. 7387) (Piercefield Project).

PART I. FACILITY DESCRIPTION

The key features of the Piercefield Hydroelectric Project are described in Table 1.

Table I-1. Facility Description Information for the Piercefield Hydroelectric Project.

Tubic I-1. Tuc	ility Description Information for the Pie	Response (and references to further details)			
Item	Information Requests	nesponse (una rejerences to jurther details)			
Name of the Facility	Facility name (use FERC project name if possible)	Piercefield Hydroelectric Project (FERC No. 7387)			
	River name (USGS proper name)	Raquette River			
	Watershed name	Raquette River Basin HUC-04150305			
Location	Nearest town(s), county(ies), and state(s) to dam	Piercefield and Tupper Lake, St. Lawrence and Franklin Counties, New York.			
	River mile of dam above next major river	88.5			
	Geographic latitude of dam	44.234			
	Geographic longitude of dam	-74.566			
	Application contact names	See Part V of LIHI certification application for more information			
Facility Owner	Facility owner company and authorized owner representative name.	Erie Boulevard Hydropower, L.P. Daniel J. Maguire			
	FERC licensee company name (if different from owner)	Same as above			
		FERC Project Number 7387			
	FERC Project Number (e.g., P-xxxxx),	New license issued October 27, 2005			
	issuance and expiration dates, or date of exemption	Settlement Agreement for the Piercefield Project is dated August 19, 2003 and was filed with FERC on October 20, 2003.			
Regulatory		License Expires on October 31, 2035			
Status	FERC license type (major, minor, exemption) or special classification (e.g., "qualified conduit", "non-jurisdictional")	•			
	Water Quality Certificate identifier, issuance date, and issuing agency name. Include information on amendments.	The Section 401 Water Quality Certificate was issued by the New York State Department of Environmental Conservation (NYSDEC) April 12, 2004 and adopted into FERC license. The NYSDEC DEC I.D. 6-4068-000131/00003.			

	Hyperlinks to key electronic records on FERC e-library website or other publicly accessible data repositories	October 11, 2017 Order Amending License Terms and Terminating Relicensing Proceeding: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=14708633 October 27, 2005 Order Issuing License: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10863007 June 23, 2005 Environmental Assessment: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10630816 April 12, 2004 Water Quality Certificate: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10123815 October 17, 2003 Settlement Agreement: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10863007			
	Date of initial operation (past or future for pre-operational applications)	1899			
	Total installed capacity (MW)	2.7 MW			
	Average annual generation (MWh) and period of record used	Actual annual generation is filed with FERC each year. The average generation from 2013 to 2018 is 16,520 MWh.			
Powerhouse	Mode of operation (run-of-river, peaking, pulsing, seasonal storage, diversion, etc.)	The Piercefield Project is operated in a modified run-of-river mode with a 1-foot			
	Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit	 Type: Unit 1: vertical Francis turbine Units 2 & 3: horizontal Double Francis turbines Description: Unit 1: Design capacity of 2,600 HP at design head of 35 feet and a speed of 112.5 rpm 			

	Trashrack clear spacing (inches), for each trashrack	 Units 2 & 3: Design capacity of 1,050 HP at design head of 34 feet and a speed of 200 rpm (each) Maximum Capacity: Unit 1: 770 cfs Units 2 & 3 = 333 cfs (each) Minimum Capacity: Unit 1: 770 cfs Units 2 & 3 = 333 cfs (each) Minimum Capacity: Unit 2 & 3 = 333 cfs (each) 1.0 inch clear spacing
	Dates and types of major equipment upgrades	The major upgrades are listed as follows: 1955 - A 1,500 kW unit consisting of a Leffel vertical Francis turbine and a GE generator added to the existing 2-unit powerhouse. 1997 - Stabilization of the powerhouse intake No. 1 with three post-tensioned rock anchors. Rehabilitation of the powerhouse intake for units No. 2 and No. 3 which included concrete demolition and installation of a new, concrete counterfort headwall and new headgate. 1998 - A new substation was constructed to replace the old one.
	Dates, purpose, and type of any recent operational changes Plans, authorization, and regulatory activities for any facility upgrades or license or exemption amendments	There have been no recent operational changes at the Project. There are no plans for any facility upgrades at the Project.
Dam or Diversion	Date of original construction and description and dates of subsequent dam or diversion structure modifications	1899 – original construction 1930 – A 222-foot-long concrete broadcrested spillway structure was built on the downstream side of the timber spillway. 1974 - The 72-ft-long timber portion of the existing spillway was replaced with a concrete ogee section extending a total spillway length to 294 feet and a new stanchion spillway was

constructed to replace a portion of an earthen dike.
1992 - The sluice and an earthen dike were replaced with a new concrete retaining wall/earthen dike composite structure. A minimum flow release structure equipped with a gate on the downstream face and a concrete intake on the upstream dike slope was installed at the location of the removed sluice.
Dam Height: 22 feet
Flashboards: 2 feet
Spillway Elevation:1,540 feet msl Hydraulic Capacity: 40,000 cfs at 1,549feet msl (top of north dike)
1,526 feet msl (normal)
The powerhouse and the intake are integral.
There is no conveyance system.
The major improvements are listed as follows: 1997 - Removal of a wooden dewatering structure and a steel framed pedestrian bridge from the forebay. Installation of a new, concrete non-overflow structure in the forebay between the powerhouse and uncontrolled spillway in front of the existing masonry wall. Installation of a new, concrete retaining wall at the west section of the forebay located 30 feet upstream from the existing wall. Installation of a concrete cap on the top of the south forebay wall to prevent overtopping during the PMF event and protect the existing masonry. Construction of a 3-foot-wide gated trash sluice at the west end of the uncontrolled spillway. 2007 - Constructed of an Obermeyer inflatable flashboard system on the spillway

	Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.) Source water Receiving water and location of	the finished crest elevation was the same as the original fixed crest elevation. 2009 - Fish movement facility installed downstream of the lift gates in the stanchion spillway. The purpose of the Piercefield Project is for power production. Raquette River Raquette River at RM 88.47					
Conduit	Conduit discharge Date of conduit construction and primary purpose of conduit powerhouse. Constructed in 1899 to conduit powerhouse.						
Impoundment and Watershed	Authorized maximum and minimum water surface elevations Normal operating elevations and normal fluctuation range Gross storage volume and surface area at full pool Usable storage volume and surface area area Describe requirements related to impoundment inflow, outflow, up/down ramping and refill rate restrictions.	1,542 ft maximum; 1,539 ft minimum 1,542 ft maximum; 1,541 ft minimum Gross Volume: 2,750 acre-feet Surface Area: 370 acres Usable Volume: 2,750 acre-feet Surface Area: 370 acres The Piercefield Project operates with a 1-foot operational band measured in a downward direction from the top of the flashboard when in place or the crest of the dam (1,540.0 feet msl) when flashboards are not in place. A minimum base flow of 150 cfs or inflow, whichever is less, is maintained in the Raquette River below the project tailrace.					
	Upstream dams by name, ownership and river mile. If FERC licensed or exempt, please provide FERC Project number of these dams. Indicate which upstream dams have downstream fish passage.	Setting Pole Dam, Town of Tupper Lake, N/A, RM 90.4 * No upstream dams provide downstream fish passage.					
	Downstream dams by name, ownership, river mile and FERC number if FERC licensed or exempt. Indicate which downstream dams have upstream fish passage	Carry Falls Project, Erie Boulevard Hydropower, LP, P-2060, RM 68 Stark Development, Erie Boulevard Hydropower, LP, P-2084, RM 66					

Blake Development, Erie Boulevard Hydropower, LP, P-2084, RM 62
Rainbow Falls Development, Erie Boulevard Hydropower, LP, P-2084, RM 56
South Colton Development, Erie Boulevard Hydropower, LP, P-2084, RM 52
Higley Development, Erie Boulevard Hydropower, LP, P-2320, RM 47
Colton Development, Erie Boulevard Hydropower, LP, P-2320, RM 45
Hannawa Development, Erie Boulevard Hydropower, LP, P-2320, RM 39
Sugar Island Development, Erie Boulevard Hydropower, LP, P-2320, RM 38
Potsdam Project, P-2869, Village of Potsdam, RM 35
Sissonville Project, P-9260, Boralex Hydro Operations, Inc, RM 33
Hewittville Project p-2460, Erie Boulevard Hydropower, LP, RM 33
Unionville Project, P-2499, Erie Boulevard Hydropower, LP, RM 31
Norwood Development, Erie Boulevard Hydropower, LP, P-2330, RM 28
Yaleville Project, Erie Boulevard Hydropower, LP, P-9222, RM 25.5
East Norfolk Development, Erie Boulevard Hydropower, LP, P-2330, RM 23.5
Norfolk Development, Erie Boulevard Hydropower, LP, P-2330, RM 22.5

I		
		Raymondville Department, Erie Boulevard Hydropower, LP, P-2330, RM 20
		* No downstream dams provide upstream fish passage.
	Operating agreements with upstream or downstream facilities that affect water availability and facility operation	Setting Pole Dam is located immediately upstream of the Piercefield impoundment. Setting Pole Dam is owned by the Town of Tupper Lake. Erie has an agreement in place to make gate adjustments at Setting Pole Dam to maintain water levels at the dam.
	Area of land (acres) and area of water (acres) inside FERC project boundary or under facility control.	The FERC project boundary covers 505.4 acres (18.4 acres of land and 487 acres of water).
	Average annual flow at the dam, and period of record used	The approximately average monthly flow at the Piercefield Hydroelectric Project based on flow data through 1909 though 2018 at the USGS gage 04266500 Raquette River at Piercefield, NY is 1,260 cfs.
Hydrologic Setting	Average monthly flows and period of record used	The approximate average monthly flows at the Piercefield Hydroelectric Project based on flow data through 1909 through 2018 at the 04266500 Raquette River at Piercefield, NY are as follows: January – 1,036 cfs February – 872 cfs March – 1,164 cfs April – 3,320 cfs May – 3,136 cfs June – 1,379 cfs July – 749 cfs August – 495 cfs September – 471 cfs October – 716 cfs November – 1,068 cfs December – 1,200 cfs
	Location and name of closest stream gauging stations above and below the facility	USGS Gage No. 04266500 Raquette River at Piercefield, NY (located downstream of the Piercefield Hydroelectric Project)

Í						
	Watershed area at the dam (in square miles). Identify if this value is prorated and provide the basis for proration.	722 square miles Average annual and monthly flows for the Piercefield Hydroelectric Project were approximated from 4266500 Raquette River at Piercefield, NY without proration.				
	Number of zones of effect					
	Upstream and downstream locations by river miles	Piercefield Hydroelectric Project were approximated from 4266500 Raquette River at Piercefield, NY without proration. There are three zones of effect at the Piercefield Hydroelectric Project (See				
	Type of waterbody (river, impoundment, by-passed reach, etc.)	Zone 2: Bypassed Reach				
	Delimiting structures or features	downstream approximately 1.9 miles to the dam. Zone 2: Dam, downstream approximately 550 feet. Zone 3: Powerhouse, downstream approximately 1.6 miles				
Designated Zones of Effect		impoundment as Class A waters and the Raquette River downstream of the dam as				
	Designated uses by state water quality agency	source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing. The best usage of Class C waters is fishing. The Class switches from A to C as it switches from an impoundment to the bypass and				
		https://govt.westlaw.com/nycrr/Browse/Ho me/NewYork/NewYorkCodesRulesandRegulat ions?guid=I06849fe0b5a111dda0a4e17826eb c834&originationContext=documenttoc&tran				

PART II. STANDARD MATRICES

The Piercefield Hydroelectric Project has three zones of effect that are defined as: (1) Zone one, which extends from the head of the impoundment downstream approximately 1.9 miles to the Piercefield dam, (2) Zone two, which extends from the Piercefield dam downstream along the bypassed reach approximately 550 feet, and (3) Zone three, which extends from the Piercefield powerhouse downstream approximately 1.6 miles.

The standards selected to satisfy the LIHI certification criteria in each of these zones are identified in the following tables.

Table II-1. LIHI Standards Selected for Zone of Effect No. 1

			Alterna	tive Sta	ndards	S
	Criterion	1	2	3	4	Plus
A	Ecological Flow Regimes	X				
В	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			

Table II-2. LIHI Standards Selected for Zone of Effect No. 2

			Alterno	itive Sta	ındards	S
	Criterion	1	2	3	4	Plus
A	Ecological Flow Regimes		X			
В	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			

Table II-3. LIHI Standards Selected for Zone of Effect No. 3

			Alterna	tive Sta	ındards	7
	Criterion	1	2	3	4	Plus
A	Ecological Flow Regimes		X			
В	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			
Н	Recreational Resources		X			

PART III. SUPPORTING INFORMATION

This section contains information that explains and justifies the standards selected to pass the LIHI certification criteria (see Part II for selections).

Information Required to Support Ecological Flows Standards.

III.A.1 Ecological Flows: Piercefield Project Zone 1

rd I	instructions
N	Not Applicable / De Minimis Effect:
•	• 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.

Zone 1 of the Piercefield Project is the Piercefield impoundment. The FERC license, 2003 Settlement Offer (filed with the Final License Application), and Section 401 Water Quality Certificate (WQC) include the requirements for flow releases and water level control recommended by the NYSDEC and U.S. Fish and Wildlife Service (USFWS). Article 401 requires the Piercefield Project operates with a maximum daily fluctuation limit of 1 foot year-round, measured in a downward direction from the top of the flashboard (1,542.0 feet msl) when in place or the crest of the dam (1,540.0 feet msl) when flashboards are not in place, for the protection of fish habitat in the project impoundment and downstream reaches of the Raquette River.

Erie maintains year-round 2-foot flashboards. Erie, in conjunction with NYSDEC, USFWS, Adirondack Park Agency (APA), and New York Rivers United (NYRU), conducted an impoundment fluctuation Delphi assessment to determine the effects of the 1.0-foot daily fluctuation. According to the FERC Environmental Assessment (EA), the Delphi assessment concluded that the 1.0-foot daily fluctuation would have minimal effects on the surrounding

wetlands and littoral habitats. The littoral habitat would remain wetted and terrestrial habitat, such as bird nesting areas, would not be disturbed by the minimal fluctuation.

According to the EA, reduced water level fluctuations would result in the littoral habitat remaining wetted, and terrestrial habitat, such as bird nesting areas, would not be disturbed by the minimal fluctuation. In addition, the project operation would help maintain a stable vegetative buffer around the reservoir.

June 23, 2005 Environmental Assessment:

https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10630816

License Article 405 and the Settlement Offer require a Stream Flow and Water Level Monitoring Plan (SFWLMP), be developed to ensure compliance with impoundment fluctuations. The final SFWLMP was filed with FERC on November 6, 2006. On January 16, 2018 FERC issued an Order Approving the SFWLMP. There has been one instance of an impoundment deviation such that the notification procedure of the SFWLMP was put into effect. By letter dated June 13, 2013, FERC concluded that the reported impoundment deviation will not be considered a violation of the license.

License Article 405 Stream Flow and Water Level Monitoring Plan: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11183059

Order Approving Stream Flow and Water Level Monitoring Plan: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11562854

Settlement Offer:

https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=9862533

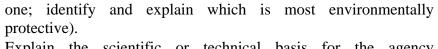
June 13, 2013 FERC Letter Regarding Base Flow Excursions https://elibrary.ferc.gov/IDMWS/common/opennat.asp?fileID=13282982

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Piercefield Project.

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

III.A.2 Ecological Flows: Piercefield Project Zone 2

Criterion	Standard	Instructions
A	2	Agency Recommendation (see Appendix A for definitions):
		• Identify the proceeding and source, date, and specifics of the agency recommendation applied (NOTE: there may be more than



- 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).

Zone 2 of the Piercefield Project is the bypassed reach downstream of the Piercefield dam. The Piercefield Project is in compliance with resource agency conditions issued regarding flow conditions. The FERC license, 2003 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

Erie maintains a downstream movement facility in the stanchion spillway and a plunge pool and flow channel as necessary to provide a downstream fish movement flow of 20 cfs (as required by Article 407 and the Section 401 WQC). The EA stated that this area provides the terrestrial habitat for amphibians and other macrovertebrates, and the 20 cfs flow would ensure the area remains wetted.

June 23, 2005 Environmental Assessment: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10630816

License Article 405 and the Settlement Agreement require a SFWLMP be developed to ensure compliance with impoundment fluctuations. The final SFWLMP was filed with FERC on November 6, 2006. On January 16, 2008 FERC issued an Order Approving the SFWLMP. There has been one instance of a flow deviation such that the notification procedure of the SFWLMP was put into effect. By letter dated February 25, 2013, FERC concluded that the reported base flow deviation will not be considered a violation of the license.

License Article 405 Stream Flow and Water Level Monitoring Plan: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11183059

Order Approving Stream Flow and Water Level Monitoring Plan: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11562854

February 25, 2013 FERC Letter Regarding Base Flow Excursions https://elibrary.ferc.gov/IDMWS/common/opennat.asp?fileID=13189365

Erie remains in compliance with the established flow conditions and impoundment levels and maintains records of these conditions at the Project. In the event of a deviation from established minimum flows or impoundment levels, Erie files documentation with FERC detailing the reasons for the deviation.

III.A.3 Ecological Flows: Piercefield Project Zone 3

Criterion	Standard	Instructions
A	2	Agency Recommendation (see Appendix A for definitions):
		 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 protective). 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).

Zone 3 extends from the Piercefield powerhouse, downstream approximately 1.6 miles. The FERC license, 2003 Settlement Offer, and Section 401 WQC include the requirements for flow releases and water level control recommended by the NYSDEC and USFWS.

As required by Article 402, a minimum base flow of 150 cfs or inflow, whichever is less, shall be maintained in the Raquette River below the project tailrace. The EA stated that the 150 cfs baseflow (or inflow) will continue to support the fish community of the downstream Raquette River. All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Piercefield Project.

June 23, 2005 Environmental Assessment: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10630816

License Article 405 and the Settlement Agreement require a SFWLMP be developed to ensure compliance with impoundment fluctuations. The final SFWLMP was filed with FERC on November 6, 2006. On January 16, 2018 FERC issued an Order Approving the SFWLMP. There has been one instance of a flow deviation such that the notification procedure of the SFWLMP was put into effect. By letter dated February 25, 2013, FERC concluded that the reported base flow deviation will not be considered a violation of the license.

Piercefield Project Certification Application

License Article 405 Stream Flow and Water Level Monitoring Plan: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11183059

Order Approving Stream Flow and Water Level Monitoring Plan: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11562854

Information Required to Support Water Quality Standards.

III.B.1 Water Quality: Piercefield Project Zone 1

Criterion	Standard	Instructions
В	2	Agency Recommendation:
		 If facility is located on a Water Quality Limited river reach, provide a link to the state's most recent impaired waters list and indicate the page(s) therein that apply to facility waters. If possible, 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 and any subsequent amendments, including the date(s) of issuance. If more than 10 years old, provide documentation that the certification terms and conditions remain valid and in effect for the facility (e.g., a letter from the agency). Identify any other agency recommendations related to water quality and explain their scientific or technical basis. Describe all compliance activities related to water quality and any agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations.

The Piercefield Project is in compliance with all conditions issued pursuant to a Clean Water Act – Section 401 WQC. The Section 401 WQC is conditioned on compliance with the terms of the Settlement Agreement. The 401 WQC was issued on April 4, 2004 and adopted into the FERC license. On-going water quality monitoring at the Project is not required as part of the WQC or FERC license.

Order Issuing License:

https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10863007

Generally, any changes to the original WQC are necessitated by significant changes in or to the Project environment affecting the Conditions of the original WQC, which culminates in an amendment of the original WQC. This situation has not occurred for the Piercefield Project WQC, and the original WQC, issued on March 22, 2006 is still in effect.

Additionally, the Applicant contacted the NYSDEC on January 3, 2019, regarding the current WQC status for the Project. By letter dated January 14, 2019 (note the letter was received from the NYSDEC was dated 2018 in error), the NYSDEC indicated that the current 401 WQC is still

valid for the Piercefield Project. The consultation documentation regarding the 401 WQC is included in Appendix D.

Per review of the November 2016 Section 303(d) list for New York State, no impaired waters in the Project area or downstream reach are listed. A copy of the November 2016 Section 303(d) list for New York State can be viewed at https://www.dec.ny.gov/docs/water_pdf/303dListfinal2016.pdf.

The Raquette River in the vicinity of the Piercefield impoundment is classified as Class A. The best usage of Class A waters are a source of water supply for drinking culinary or food processing purposes; primary and secondary contact recreation; and fishing. The Raquette River downstream of the Piercefield dam is classified as Class C. The best usage of Class C water is fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

III.B.2 Water Quality Piercefield Project Zone 2

Criterion	Standard	Instructions
В	2	Agency Recommendation:
		 If facility is located on a Water Quality Limited river reach, provide a link to the state's most recent impaired waters list and indicate the page(s) therein that apply to facility waters. If possible, 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 and any subsequent amendments, including the date(s) of issuance. If more than 10 years old, provide documentation that the certification terms and conditions remain valid and in effect for the facility (e.g., a letter from the agency). Identify any other agency recommendations related to water quality and explain their scientific or technical basis. Describe all compliance activities related to water quality and any agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations.

See response above for Zone 1.

III.B.3 Water Quality: Piercefield Project Zone 3

Criterion	Standard	Instructions
В	2	Agency Recommendation:
		• If facility is located on a Water Quality Limited river reach, provide
		a link to the state's most recent impaired waters list and indicate the
		page(s) therein that apply to facility waters. If possible, 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 and any

subsequent amendments, including the date(s) of issuance. If more than 10 years old, provide documentation that the certification terms and conditions remain valid and in effect for the facility (e.g., a
 letter from the agency). Identify any other agency recommendations related to water quality and explain their scientific or technical basis.
• Describe all compliance activities related to water quality and any agency recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations.

See response above for Zone 1.

Information Required to Support Upstream Fish Passage Standards.

III.C.1 Upstream Fish Passage: Piercefield Project Zone 1

Criterion	Standard	Instructions
С	1	Not Applicable / De Minimis Effect:
		• 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.

During the relicensing proceeding for the Piercefield Project, neither the Department of Commerce nor the Department of Interior (Interior) prescribed anadromous or catadromous fish passage facilities for the Project. The Settlement and the EA indicate that fish mortality is a limited issue at the Project.

Interior did, however, by letter dated October 6, 2004 request reservation of its authority to prescribe upstream and downstream fish passage devices in the future, which is provided in Article 408 of the 2005 FERC license.

Due to natural downstream waterfalls and water features there are no anadromous fish species found in the project area. Moody Falls and Carry Falls are 12 miles and 13 miles downstream, respectively. According to the EA, the upper Raquette River historically supported a coldwater fishery, with species such as brook trout, lake trout, round whitefish, longnose sucker, slimy sculpin, and lake chub. During the late 1800s, species such as northern pike, chain pickerel, walleye, and smallmouth bass were introduced into the upper watershed, displacing this native

Piercefield Project Certification Application

fauna. By 1934, the Raquette River main stem supported few trout, and forage species were greatly reduced.

The Raquette River in the project area currently supports a fish community that includes yellow perch, walleye, rock bass, smallmouth bass, lake whitefish, fallfish, and golden shiners. In surveys conducted by the NYSDEC, yellow perch were the most abundant species.

June 23, 2005 Environmental Assessment:

https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10630816

III.C.2 Upstream Fish Passage Piercefield Project Zone 2

Criterion	Standard	Instructions
С	1	Not Applicable / De Minimis Effect:
		 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.

See response above for Zone 1.

III.C.3 Upstream Fish Passage: Piercefield Project Zone 3

Criterion	Standard	Instructions
С	1	Not Applicable / De Minimis Effect:
		• 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.

See response above for Zone 1.

Information Required to Support Downstream Fish Passage Standards.

III.D.1 Downstream Fish Passage: Piercefield Project Zone 1

Criterion	Standard	Instructions
D	2	Agency Recommendation:
		 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 protective). Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not. Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.

There are no mandatory prescriptions (Section 18 or similar) for the passage of riverine fish at the Project. Agency recommendations for fish entrainment protection at the Piercefield Project are included in the Settlement Offer and FERC license. To exclude adult fish from being entrained through the turbines, Article 406 of the 2005 license required Erie to replace the former trashracks with 1-inch clear bar spacing trashracks by December 31, 2012. On May 17, 2012, Erie submitted the Trashrack Replacement Plan, which was approved by FERC on June 12, 2012. No other fish passage related measures were requested by any resource agencies for downstream fish passage at the Project.

Due to natural downstream waterfalls and water features there are no anadromous fish species found in the project area. According to the EA, the upper Raquette River historically supported a coldwater fishery, with species such as brook trout, lake trout, round whitefish, longnose sucker, slimy sculpin, and lake chub. During the late 1800s, species such as northern pike, chain pickerel, walleye, and smallmouth bass were introduced into the upper watershed, displacing this native fauna. By 1934, the Raquette River main stem supported few trout, and forage species were greatly reduced.

The Raquette River in the project area currently supports a fish community that includes yellow perch, walleye, rock bass, smallmouth bass, lake whitefish, fallfish, and golden shiners. In surveys conducted by the NYSDEC, yellow perch were the most abundant species.

June 12, 2012 Order Approving Trashrack Replacement Plan: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13005928

June 23, 2005 Environmental Assessment:

https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10630816

III.D.2 Downstream Fish Passage: Piercefield Project Zone 2

Criterion	Standard	Instructions
D	2	Agency Recommendation:
		 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 protective). Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not. Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.

In Zone 2, Erie maintains a downstream movement facility in the stanchion spillway and a plunge pool and flow channel as necessary to provide safe passage for fish (as required by Article 407). On April 30, 2009 the licensee submitted to FERC the final plans for the Article 407 flow release structure in support of downstream fish passage, which was approved by FERC on May 20, 2009. Article 407 also requires the licensee to provide a continuous minimum flow of 20 cfs, or inflow, whichever is less, through the fish movement facility.

Order Approving Downstream Fish Passage Facilities Pursuant to Article 407 https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=12024731

Erie submitted documentation of completion of the fish movement facility on December 23, 2009. As discussed in the letter, the fish movement facility was installed in October 2009, with additional construction to satisfy the observations of the resource agencies (USFWS and NYSDEC). The resource agencies concurred that the modifications to the facility addressed concerns that the flow into the new plunge pool was overflowing the downstream edge of the pool.

December 23, 2009 License Article 407 – Fish Movement Facility- Completion https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=12226781

Due to natural downstream waterfalls and water features there are no anadromous fish species found in the project area. According to the EA, the upper Raquette River historically supported a coldwater fishery, with species such as brook trout, lake trout, round whitefish, longnose sucker, slimy sculpin, and lake chub. During the late 1800s, species such as northern pike, chain pickerel, walleye, and smallmouth bass were introduced into the upper watershed, displacing this native fauna. By 1934, the Raquette River main stem supported few trout, and forage species were greatly reduced.

The Raquette River in the project area currently supports a fish community that includes yellow perch, walleye, rock bass, smallmouth bass, lake whitefish, fallfish, and golden shiners. In surveys conducted by the NYSDEC, yellow perch were the most abundant species.

License Article 405 and the Settlement Agreement require a SFWLMP be developed to ensure compliance with impoundment fluctuations. The final SFWLMP was filed with FERC on November 6, 2006. On January 16, 2008 FERC issued an Order Approving the SFWLMP.

License Article 405 Stream Flow and Water Level Monitoring Plan: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11183059

Order Approving Stream Flow and Water Level Monitoring Plan: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11562854

III.D.3 Downstream Fish Passage: Piercefield Project Zone 3

Criterion	Standard	Instructions
D	1	Not Applicable / De Minimis Effect:
		 Explain why the facility does not impose a barrier to downstream fish passage in the designated zone, considering both physical obstruction and increased mortality relative to natural downstream movement (e.g., entrainment into hydropower turbines). Typically, tailwater/downstream zones will qualify for this standard since below a dam and powerhouse there is no facility barrier to further downstream movement. Bypassed reach zones must demonstrate that flows in the reach are adequate to support safe, effective and timely downstream migration. For riverine fish populations that are known to move downstream, explain why the facility does not contribute adversely to the sustainability of these populations or to their access to habitat necessary for successful completion of their life cycles. 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.

Due to natural downstream waterfalls and water features there are no anadromous fish species found in the project area. According to the EA, the upper Raquette River historically supported a coldwater fishery, with species such as brook trout, lake trout, round whitefish, longnose sucker, slimy sculpin, and lake chub. During the late 1800s, species such as northern pike, chain pickerel, walleye, and smallmouth bass were introduced into the upper watershed, displacing this native fauna. By 1934, the Raquette River main stem supported few trout, and forage species were greatly reduced.

The Raquette River in the project area currently supports a fish community that includes yellow perch, walleye, rock bass, smallmouth bass, lake whitefish, fallfish, and golden shiners. In surveys conducted by the NYSDEC, yellow perch were the most abundant species.

Information Required to Support Shoreline and Watershed Protection Standards.

III.E.1 Shoreline and Watershed Protection Piercefield Project Zone 1

Criterion	Standard	Instructions
Е	2	Agency Recommendation:
		 Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans). Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect.

The Piercefield Project is located entirely within the Adirondack State Park boundary. The area surrounding the project is predominately undeveloped woodlands. The few developed areas consist of the recreation sites along the shoreline of the project, the two towns, and in the vicinity of NYS Route 3. Downstream of the project, the shoreline along the Raquette River is essentially undeveloped with a few cottages located near Sols Island. In 2007, NYSDEC purchased a conservation easement and created the Big Tupper Conservation Easement Tract, which is located adjacent to the Project and includes the area within 300 feet of the eastern portion of the Piercefield impoundment. Conservation easement terms limit future development, require sustainable forestry practices, and provide specific public recreation opportunities on the property. The Project does not contribute to development and recreational opportunities that are provided.

The FERC EA for the Project concluded that reduced fluctuations would likely result in less potential for shoreline erosion. Maintaining the reservoir at this height would benefit emergent and submergent aquatic macrophytes which would in turn maintain a vegetative buffer around the lake. A vegetative buffer would diminish the possibility of shoreline sediment erosion and reduce the impact of any upland erosion that does occur. The river is not currently considered impaired or threatened by the NYSDEC. There is no evidence that Project operation has contributed to existing shoreline erosion. There is no shoreline management plan required for the Project.

License Article 405 and the Settlement Offer require a SFWLMP, be developed to ensure compliance with impoundment fluctuations. The final SFWLMP was filed with FERC on November 6, 2006. On January 16, 2018 FERC issued an Order Approving the SFWLMP. There has been one instance of an impoundment deviation such that the notification procedure of the

Piercefield Project Certification Application

SFWLMP was put into effect. By letter dated June 13, 2013, FERC concluded that the reported impoundment deviation will not be considered a violation of the license.

License Article 405 Stream Flow and Water Level Monitoring Plan: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11183059

Order Approving Stream Flow and Water Level Monitoring Plan: https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11562854

Settlement Offer:

https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=9862533

June 13, 2013 FERC Letter Regarding Base Flow Excursions https://elibrary.ferc.gov/IDMWS/common/opennat.asp?fileID=13282982

All of the license and settlement requirements pertaining to flow conditions and impoundment levels have been implemented at the Piercefield Project.

III.E.2 Shoreline and Watershed Protection: Piercefield Project Zone 2

Criterion	Standard	Instructions
Е	2	Agency Recommendation:
		 Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans). Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect.

See response above for Zone 1.

III.E.3 Shoreline and Watershed Protection: Piercefield Project Zone 3

Criterion	Standard	Instructions
Е	2	Agency Recommendation:
		 Provide copies or links to any agency recommendations or management plans that are in effect related to protection, mitigation, or enhancement of shoreline surrounding the facility (e.g., Shoreline Management Plans). Provide documentation that indicates the facility is in full compliance with any agency recommendations or management plans that are in effect.

See response above for Zone 1.

Information Required to Support Threatened and Endangered Species Standards.

III.F.1 Threatened and Endangered Species: Piercefield Project Zone 1

Criterion	Standard	Instructions
F	3	Recovery Planning and Action:
		 If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents. Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area.

Based on information received from the USFWS's New York Field Office on February 1, 2019, regarding a request for information on RTE species it appears that the northern long-eared bat (*Myotis septentrionalis*) may potentially occur within the Project area. There are no critical habitats located within the Piercefield Project area.

During preparation of this application, Erie also consulted with NYSDEC's Natural Heritage Program for an updated list of threatened and endangered species that may occur in the vicinity of the Feeder Dam Project. By letter dated February 7, 2019, the NYSDEC indicated that the Bald Eagle (*Haliaeetus leucocephalus*), which is state listed at threatened, and Spruce Grouse (Falcipennis canadensis), which is state-listed as endangered, have been documented in the vicinity of the Piercefield Project. In addition, Common Loon (*Gavia immer*) and Bridle Shiner (*Notropis bifrenatus*) may potentially occur in the vicinity of the Piercefield Project.

The USFWS has not adopted a formal recovery plan for the northern long-eared bat. On January 14, 2016, the USFWS published the final 4(d) rule identifying prohibitions for the protection of northern long-eared bats. Operations of the Piercefield Project, especially with regard to tree clearing from June 1 through July 31, adhere to the prohibitions outlined in the final 4(d) rule.

The NYSDEC has adopted the following conservation plan for Bald Eagle in New York State:

Town. B.E. et al. 2016. Conservation Plan for Bald Eagles in New York State. New York State Department of Environmental Conservation Bureau of Wildlife Region 6.

Recovery actions identified in the NYSDEC's Bald Eagle Conservation Plan include habitat preservation and outreach efforts. Bald Eagles are also protected by the federal Bald and Golden Eagle Protection Act (BGEPA). Operations of the Piercefield Project, such as the lack of tree clearing during nesting season, are consistent with this conservation plan and the BGEPA. These operations help protect essential breeding and wintering habitats. The EA for the project states that there is no potential for loss of habitat and the Project would have no effect on bald eagles.

The NYSDEC has adopted the following recovery plan for the Spruce Grouse the may be present in the vicinity of the Piercefield Project:

Ross, A.M., and G. Johnson. 2012. Recovery Plan for New York State Populations of Spruce Grouse (Falcipennis canadensis). New York State Department of Environmental Conservation, Albany, New York. 86pp.

Recovery actions identified in the NYSDEC's Spruce Grouse Recovery Plan include forest preservation and habitat management. Operations of the Piercefield Project, especially with regard to limited impoundment fluctuations and limited tree clearing, are consistent with this recovery plan. The recovery plan indicates that while the damming of rivers contributed to the initial decline of the Spruce Grouse, it is no longer considered a significant factor.

The Common Loon is listed as a species of Special Concern and Bridle Shiner is listed as an imperiled species by the NYSDEC. The NYSDEC has not adopted a formal recovery plan for the Common Loon or Bridle Shiner

There are no specific requirements for threatened or endangered species protection in the FERC license or WQC for the Piercefield Project. The record of RTE consultation is included in Appendix E.

III.F.2 Threatened and Endangered Species: Piercefield Project Zone 2

Criterion	Standard	Instructions
F	3	Recovery Planning and Action:
		 If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents. Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area.

See response above for Zone 1.

III.F.3 Threatened and Endangered Species: Piercefield Project Zone 3

Criterion	Standard	Instructions
F	3	Recovery Planning and Action:
		 If listed species are present, document that the facility is in compliance with relevant conditions in the species recovery plans, incidental take permits or statements, biological opinions, habitat conservation plans, or similar government documents. Document that any incidental take permits and/or biological opinions currently in effect were designed as long-term solutions for protection of listed species in the area.

See response above for Zone 1.

Information Required to Support Cultural and Historic Resources Standards.

III.G.1 Cultural and Historic Resources: Piercefield Project Zone 1

Criterion S	Standard	Instructions
G	2	Approved Plan:
		 Provide documentation of all approved state, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility. Document that the facility is in compliance with all such plans.

Executed on January 18, 2005, Erie entered into a programmatic agreement (PA) with FERC, the Advisory Council on Historic Preservation, and the New York State Historic Preservation Officer (SHPO) for managing historic properties that may be affected by a license issued for the continued operation of the Piercefield Project. The Piercefield Project, which includes the powerhouse and dam, may be a Historic Property. Originally known as Mill #17, the project was constructed by International Paper Company in 1899 to produce newsprint.

Programmatic Agreement:

https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10737523

Article 410 of the license requires Erie to implement the PA, including the filing of a Historic Properties Management Plan (HPMP). Erie developed the HPMP in consultation with the SHPO and filed the HPMP with FERC on August 26, 2006. FERC approved the HPMP on November 12, 2010. On December 6, 2011 Erie filed proposed amendments to the HPMP. FERC's order approving Erie's amendments to the HPMP was issued on October 4, 2012. In accordance with the FERC order for Erie to file a report with FERC on a ten-year cycle regarding archaeological site monitoring by a qualified professional.

Order Approving Historic Properties Management Plan:

https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=12484945

Order Amending Historic Properties Management Plan:

https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=13111372

The facilities in the Piercefield Project are in compliance with all requirements regarding cultural resource protection, mitigation, or enhancement included in the FERC license.

III.G.2 Cultural and Historic Resources: Piercefield Project Zone 2

Criterion	Standard	Instructions
G	2	Approved Plan:
		 Provide documentation of all approved state, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.
		 Document that the facility is in compliance with all such plans.

See response above for Zone 1.

III.G.3 Cultural and Historic Resources: Piercefield Project Zone 3

Criterion	Standard	Instructions
G	2	Approved Plan:
		 Provide documentation of all approved state, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.
		• Document that the facility is in compliance with all such plans.

See response above for Zone 1.

Information Required to Support Recreational Resources Standards.

III.H.1 Recreational Resources: Piercefield Project Zone 1

Criterion	Standard	Instructions
Н	2	Agency Recommendation:
		 Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations. Document that the facility is in compliance with all such recommendations and plans.

The portion of the Raquette River that flows within the project boundary is known as the Piercefield Flow. The Piercefield Flow, designated as a Recreational River under the New York State Wild, Scenic, and Recreation Rivers System Act, provides boating, swimming, and fishing opportunities. Formal recreational facilities include the boat launch located south of Route 3, a canoe put-in/take-out and portage area, and two fishing areas located near the dam.

The Piercefield Project is in compliance with recreational access, accommodation, and facilities' conditions in the FERC license.

Piercefield Project Certification Application

Article 409 of the FERC license required the licensee to file for FERC approval a recreation plan to operate, and maintain existing recreational facilities. Erie filed the final recreation plan for the Piercefield Project on October 26, 2006, and FERC issued an order approving the plan on December 14, 2006. All recreational enhancements associated with the FERC license have been implemented.

Final Recreation Management Plan:

https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11170020

Order Approving Recreation Management Plan:

https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11207159

III.H.2 Recreational Resources: Piercefield Project Zone 2

Criterion	Standard	Instructions
Н	2	Agency Recommendation:
		 Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations. Document that the facility is in compliance with all such
		recommendations and plans.

Pursuant to Article 409 and the approved Recreation Management Plan, dated October 26, 2006, Erie provides an annual recreational release on the last Saturday of June. The release, which is measured by the USGS gauge located immediately downstream of the Project tailrace, consists of a 750 cfs continuous release (either from the Piercefield turbine units or spillway discharge facilities), lasting five hours. If inflow to the Project falls below 350 cfs during the 24 hours prior to the day of the scheduled release, the release will be cancelled and not rescheduled.

The Licensee maintains a website (https://www.safewaters.com/home) and hotline (844-430-3569) to provide information pertaining to the annual release schedule.

III.H.3 Recreational Resources: Piercefield Project Zone 3

Criterion	Standard	Instructions
Н	2	Agency Recommendation:
		 Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations. Document that the facility is in compliance with all such recommendations and plans.

See response above for Zone 1 and 2.

PART IV. SWORN STATEMENT AND WAIVER

As an Authorized Representative of Erie Boulevard Hydropower, L.P., 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 if LIHI Certification of the applying facility is granted, the LIHI Certification Mark License Agreement must be executed prior to marketing the electricity product as LIHI Certified®.

The Undersigned 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.

Company Name: Erie Boulevard Hydropower, L.P.

Authorized Representative

Name: Daniel J. Maguire

Title: Compliance Manager

Authorized Signature: M/N

Date: 4/15/20/9

PART V. CONTACTS

Table V-1. Complete contact information for Erie Boulevard Hydropower, L.P.

Project Owner:	
Name and Title	
Company	Erie Boulevard Hydropower, L.P., a subsidiary of Brookfield Renewable
Phone	
Email Address	
Mailing	399 Big Bay Road, Queensbury, NY 12804
Address	2.8 2.4) 1.044, 2000.0042, 1.1.1.200.
	r (if different from Owner):
Name and Title	
Company	
Phone	
Email Address	
Mailing	
Address	
	/ Agent for LIHI Program (if different from above):
Name and Title	
Company	
Phone	
Email Address	
Mailing	
Address	
Compliance Con	tact (responsible for LIHI Program requirements):
Name and Title	Daniel J. Maguire, P.E., Compliance Manager
Company	Brookfield Renewable
Phone	315-267-1036
Email Address	Danny.Maguire@brookfieldrenewable.com
Mailing	184 Elm Street, Potsdam, NY 13676
Address	
Party responsibl	e for accounts payable:
Name and Title	
Company	Brookfield Renewable
Phone	
Email Address	AP@brookfieldrenewable.com
Mailing	41 Victoria, Gatineau, QC J8X 2A1
Address	
Name and Title	Sandeep Mascarenhas, Senior Analyst, Capacity & Ancillary Services Management
Company	Brookfield Renewable
Phone	819-561-2722 ext. 6743
Email Address	Sandeep.Mascarenhas@brookfieldrenewable.com
Mailing	41 Victoria, Gatineau, QC J8X 2A1
Address	

Table V-2. Complete contact information for current and relevant state, federal, provincial, and tribal resource agency contacts.

Agency Contact (Check area of responsibility: Flows _X_, Water Quality _X_, Fish/Wildlife		
Resources _X_, Watersheds, T/E Spp, Cultural/Historic Resources, Recreation _X_):		
Agency Name	New York State Department of Environmental Conservation	
Name and Title	Jessica Hart, Environmental Analyst	
Phone	315-785-2246	
Email address	Jessica.Hart@dec.ny.gov	
Mailing Address	317 Washington Street, Watertown, NY 13601	

Agency Contact (Check area of responsibility: Flows, Water Quality, Fish/Wildlife		
Resources, Watersheds, T/E SppX_, Cultural/Historic Resources, Recreation):		
Agency Name	New York State Department of Environmental Conservation	
Name and Title	Nicholas Conrad, Information Resources Coordinator	
Phone	518-402-8935	
Email address	Nick.Conrad@dec.ny.gov	
Mailing Address	625 Broadway, Albany, NY 12233-4757	

Agency Contact (Check area of responsibility: Flows, Water Quality, Fish/Wildlife		
Resources, Watersheds, T/E SppX_, Cultural/Historic Resources, Recreation):		
Agency Name	U.S. Fish and Wildlife Service	
Name and Title	Robyn Niver, Endangered Species Biologist	
Phone	607-753-9334	
Email address	Robyn_Niver@fws.gov	
Mailing Address	3817 Luker Road, Cortland, NY 13045	

Agency Contact (Check area of responsibility: Flows_X_, Water Quality _X_, Fish/Wildlife		
Resources _X_, Watersheds, T/E SppX_, Cultural/Historic Resources, Recreation):		
Agency Name	U.S. Fish and Wildlife Service	
Name and Title	Steve Patch	
Phone	607-753-9334	
Email address	Stephen_Patch@fws.gov	
Mailing Address	3817 Luker Road, Cortland, NY 13045	

Agency Contact (Check area of responsibility: Flows, Water Quality, Fish/Wildlife		
Resources, Watersheds, T/E Spp, Cultural/Historic Resources _X_, Recreation):		
Agency Name	New York State Division for Historic Preservation	
Name and Title	Michael Lynch, Division Director	
Phone	518-237-8643	
Email address	Michael.Lynch@parks.ny.gov	
Mailing Address	Peebles Island State Park, P.O. Box 189, Waterford, NY 12188-0189	

APPENDIX A ZONES OF EFFECT







ZONES OF EFFECT PIERCEFIELD DEVELOPMENT

APPENDIX B PHOTOS OF KEY PROJECT FEATURES

APPENDIX B – PHOTOGRAPHS OF KEY PROJECT FEATURES



Spillway and Downstream

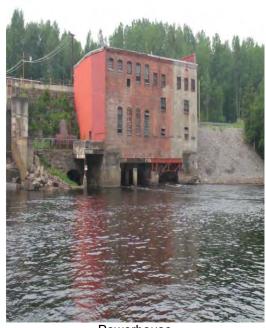




Downstream movement facility



Intake



Powerhouse

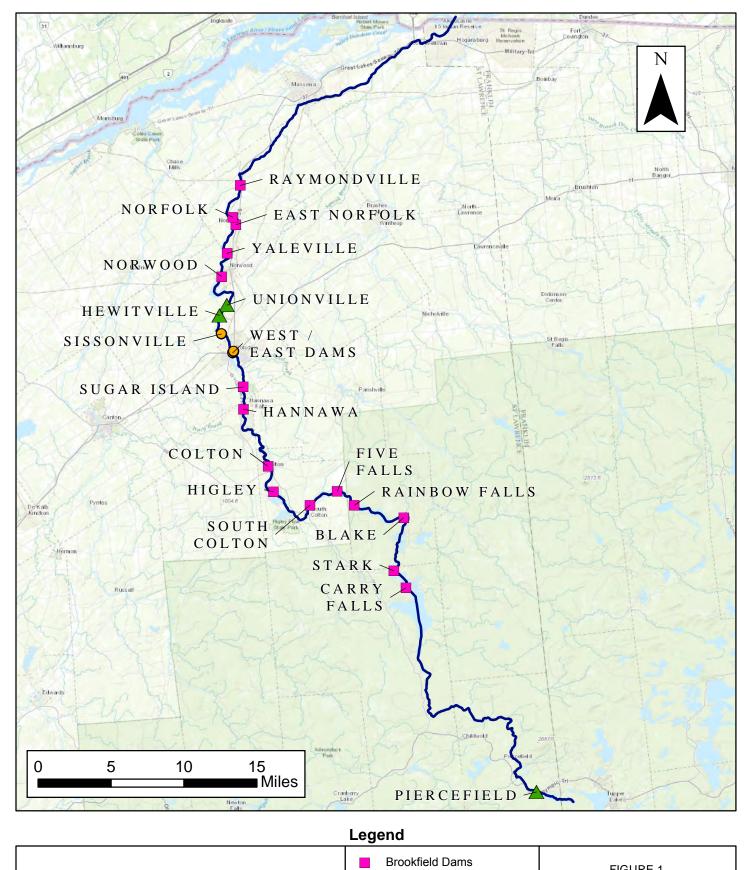


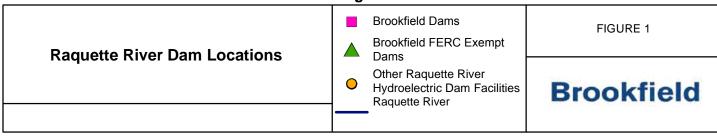
Downstream Canoe Access

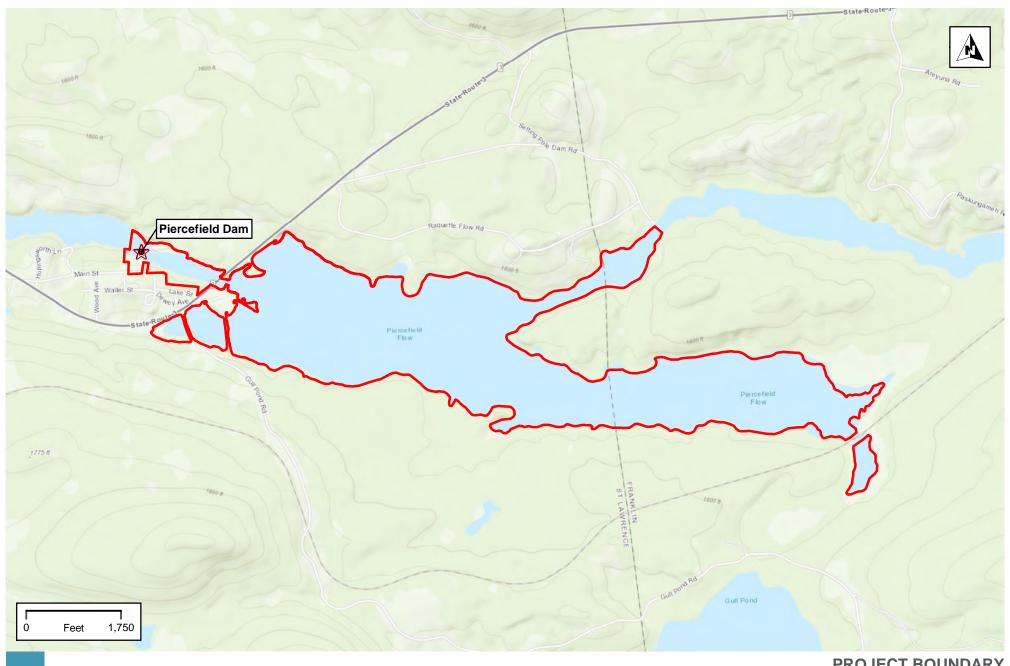


Piercefield Flow Fishing Platform

APPENDIX C PROJECT MAPS AND AERIALS







FOR Brookfield



Project Location



Project Boundary

PROJECT BOUNDARY
PIERCEFIELD DEVELOPMENT

APPENDIX C – MAPS AND AERIAL PHOTOS OF FACILITY AREA AND RIVER BASIN <u>PIERCEFIELD HYDROELECTRIC PROJECT</u>



APPENDIX D 401 WATER QUALITY CERTIFICATION CONSULTATION

Tel 315.267.1020 www.brookfieldrenewable.com

Submitted Electronically only

January 3, 2019

Ms. Jessica Hart New York State Department of Environmental Conservation 317 Washington Street Watertown, NY 13601

Subject: Piercefield Hydroelectric Project (FERC No. 7387)

Low Impact Hydropower Institute Certification

Water Quality Certificate Verification

Dear Ms. Hart:

Erie Boulevard Hydropower, L.P. (Erie) is applying for Low Impact Hydropower Institute (LIHI) certification for the Piercefield Hydroelectric Project (FERC No. 7387). This Project is located on the Raquette River in the Town of Piercefield, St. Lawrence County, New York.

Erie is requesting confirmation from the New York State Department of Environmental Conservation stating that the 401 Water Quality Certificate issued for the operation of Piercefield Hydroelectric Project on April 12, 2004 is still valid. Please provide this confirmation by reply to this letter via letter or email.

Erie respectfully requests a response within 30 days of the date of this letter. Thank you in advance for your assistance, and if you have any questions, please do not hesitate to contact me at (315) 267-1036 or by email at Danny.Maguire@brookfieldrenewable.com.

Sincerely,

Daniel Maguire, P.E. Compliance Manager North Atlantic Operations

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, Bureau of Ecosystem Health, Region 6Dulles State Office Building, 317 Washington Street, Watertown, NY 13601-3787
P: (315) 785-2263 | F: (315) 785-2242
www.dec.ny.gov

1-14-2018

Daniel Maguire, P. E. Compliance Manager North Atlantic Operations Brookfield Renewable 184 Elm Street Potsdam, NY 13676

Re: Piercefield Hydroelectric project (FERC No. 7387) LIHI Re-Certification Water Quality Certificate Verification.

Dear Mr. Maguire

The current 401 water quality certification issued by the NYSDEC on April 12, 2004 for the operation of the Piercefield Hydroelectric Project (FERC No. 7387) is still valid.

If you have any questions, please do not hesitate to contact me at 315-785-2293

Sincerely.

Stephanie Larkin

Biologist

NYSDEC - Reg 6

Stephanie.Larkin@dec.ny.gov



APPENDIX E RARE, THREATENED AND ENDANGERED SPECIES CONSULTATION



United States Department of the Interior

FISH AND WILDLIFE SERVICE

New York Ecological Services Field Office 3817 Luker Road Cortland, NY 13045-9385

Phone: (607) 753-9334 Fax: (607) 753-9699 http://www.fws.gov/northeast/nyfo/es/section7.htm



In Reply Refer To: February 01, 2019

Consultation Code: 05E1NY00-2019-SLI-0805

Event Code: 05E1NY00-2019-E-02550

Project Name: Piercefile 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 (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. 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 ESA, 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 site 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. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

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/

<u>eagle_guidance.html</u>). Additionally, wind energy projects should follow the Services wind energy guidelines (<u>http://www.fws.gov/windenergy/</u>) 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.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 ESA. 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 York Ecological Services Field Office 3817 Luker Road Cortland, NY 13045-9385 (607) 753-9334

Project Summary

Consultation Code: 05E1NY00-2019-SLI-0805

Event Code: 05E1NY00-2019-E-02550

Project Name: Piercefile Hydroelectric Project

Project Type: DAM

Project Description: The Piercefield Hydroelectric Project is applying to the Low Impact

Hydropower Institute (LIHI) for a certification of their project, and is looking for information regarding rare, threatened or endangered species that may occur in the project area. LIHI requires documentation of a finding of no negative effects or documentation that the facility is in compliance with relevant conditions in the species recovery plans.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/44.233758046319366N74.5678501387865W



Counties: Franklin, NY | St. Lawrence, NY

02/01/2019

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. <u>NOAA Fisheries</u>, 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 Myotis septentrionalis

Threatened

No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045

Critical habitats

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

Caley, Katherine

From: naturalheritage@nynhp.org

Sent: Wednesday, January 09, 2019 12:09 PM

To: Caley, Katherine

Subject: Confirmation of your submitted request to New York Natural Heritage

Submission ID: 2917

Submitted on Wednesday, January 9, 2019 - 12:08 Submitted values are:

Company, Organization, or Agency: HDR, Inc Requestor Name: Katherine Caley Requestor Address (Street/PO Box): 1304 Buckley Road, Suite 202 Requestor City: Syracuse Requestor State: New York Requestor Zip Code: 13212 Requestor Telephone #: 315-414-2213 Requestor Email: Katherine.Caley@hdrinc.com Project Type: hydroelectric facility/project Project Name: Piercefield LIHI Consultation Project Applicant: Erie Boulevard Hydropower, LLC Project County: Project Summary:

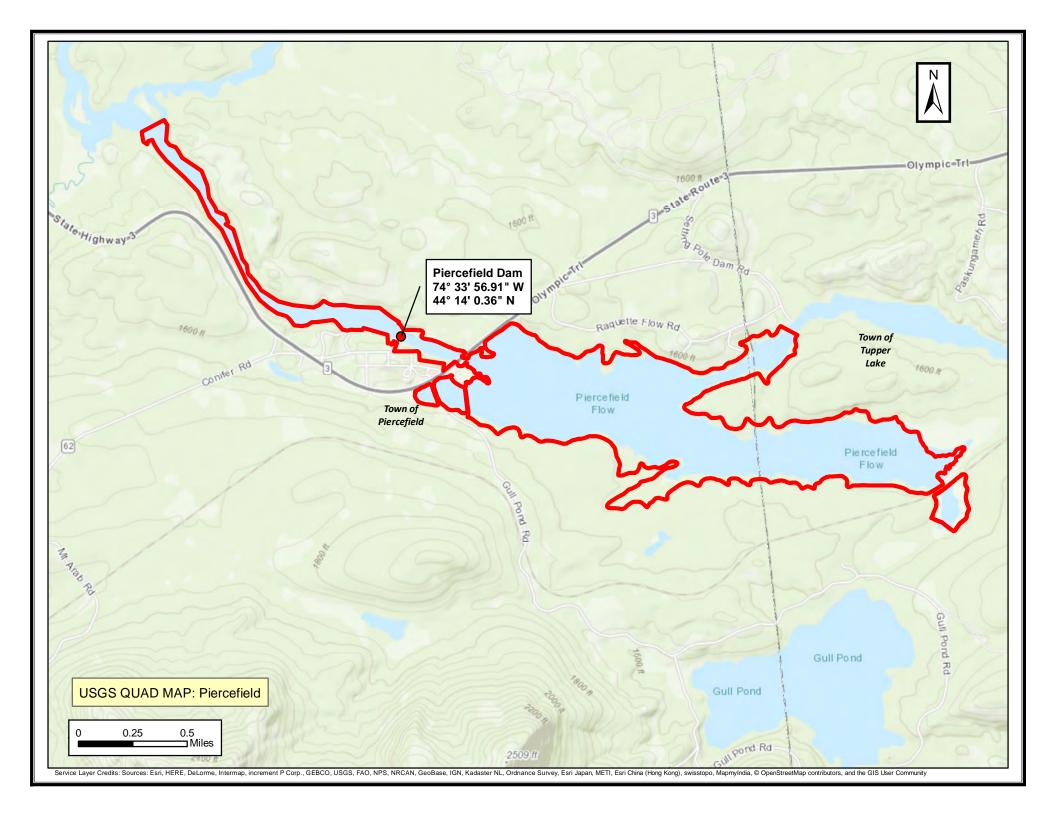
Erie is presently working with the Low Impact Hydropower Institute (LIHI) to certify the Piercefield Hydroelectric Project (FERC No.7387) as a low impact project. In preparing the application for LIHI certification, Erie must update or confirm consultation with resource agencies with respect to the presence of threatened or endangered species within the vicinity of the hydroelectric development. Per the request from LIHI, Erie respectfully requests information on the presence of threatened or endangered species within the vicinity of the project.

As a matter of background, the license from the Federal Energy Regulatory Commission (FERC) was issued for this Project on October 27, 2005. Project operations and environmental protection measures at this Project have been largely determined by a comprehensive Offer of Settlement that Erie developed in conjunction with the New York State Department of Environmental Conservation and other entities in 2003. The licensing processes for this Project included consultation with resource agencies regarding threatened and endangered species.

Current Land Use: The site is currently developed for the primary purpose of hydroelectric energy production on the Raquette River.

Tax parcel number: Latitude: 44.233 Longitude: -74.566 Street Address of Project:

Project Notes:



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program 625 Broadway, Fifth Floor, Albany, NY 12233-4757 P: (518) 402-8935 | F: (518) 402-8925 www.dec.ny.gov

February 7, 2019

Katherine Caley HDR, Inc 1304 Buckley Road, Suite 202 Syracuse, NY 13212

Re: Piercefield LIHI Consultation

County: Franklin, St Lawrence Town/City: Piercefield, Tupper Lake

Dear Ms. Caley:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur in the vicinity of the project site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 6 Office, Division of Environmental Permits at dep.r5@dec.ny.gov, (518) 623-1286.

Sincerely,

Heidi Krahling

Environmental Review Specialist New York Natural Heritage Program

NEW YORK
STATE OF OPPORTUNITY
OPPORTUNITY
Conservation



The following state-listed animals have been documented at or in the vicinity of the project site.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

For information about any permit considerations for your project, please contact the Permits staff at the NYSDEC Region 6 Office at dep.r6@dec.ny.gov, (315) 785-2245.

TI	£ _ 11 _			I	documented		! 4 ! . !	41	_	D:		!!! 4!			
I na	TOILO	wina enoci	ide nae	naan r	nathamilaar	naetina	WITHIN	TNO H	attalinks	RIVAR	COTTION	Indicated	On th	D Droide	r eita man
1110	10110	WILLIA SDEC	ico ilao	Decil	JOCUITICITICA	HUGGHIIG	AAICIIII		laudelle	1/1/0	COLLIGO	IIIGICALCA			. Site illab

COMMON NAME SCIENTIFIC NAME NY STATE LISTING FEDERAL LISTING

Birds

Bald Eagle Haliaeetus leucocephalus Threatened 5029

Breeding

The following species has been documented within 0.5 mile of the project site corridor. Individual animals may travel 1.2 miles from documented locations.

COMMON NAME SCIENTIFIC NAME NY STATE LISTING FEDERAL LISTING

Birds

Spruce Grouse Falcipennis canadensis Endangered 7149

This report only includes records from the NY Natural Heritage database.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.

2/7/2019 Page 1 of 1



Report on Rare Animals, Rare Plants, and Significant Natural Communities

7037

15228

The following rare animals have been documented at the project site, or in its vicinity.

We recommend that potential impacts of the proposed project on these species be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following animals, while not listed by New York State as Endangered or Threatened, are rare in New York and are of conservation concern.

COMMON NAME SCIENTIFIC NAME NY STATE LISTING HERITAGE CONSERVATION STATUS

Birds

Common Loon Gavia immer Special Concern

Breeding

Documented at the project site in Piercefield Flow. 1984-07-29: The birds were found in a lake created by multiple dams.

Documented near the project corridor at Gull Pond. 2003.

Fish

Bridle Shiner Notropis bifrenatus Unlisted Imperiled in NYS and Globally Uncommon

Documented near the project corridor at Dead Creek. 2007-09-26.

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

2/7/2019 Page 1 of 1