

# Oswego River Hydroelectric Project

Recertification Application to the Low Impact Hydropower Institute

LIHI #35B and FERC Project No. 2474



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Fulton, New York

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## Oswego River Project Recertification Application

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### 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 recertification of the Oswego River Project (LIHI #35B), subsequent to a previous LIHI certification that expires December 7, 2017. The Oswego River Project consists of three hydroelectric developments, Fulton, Minetto, and Varick, along the Oswego River in Oswego County, New York. The developments are all located at locks and dams owned by the New York State Canal Corporation (NYSCC), operator of the State Barge Canal System. These three developments are licensed with the Federal Energy Regulatory Commission (FERC) as the Oswego River Project (FERC No. 2474). There have been no material changes in the facility design or operation since the most recent LIHI review that was concluded on March 10, 2015. There also have been no material changes in the environmental conditions in the project vicinity since that most recent LIHI review. The only material changes that have occurred recently are in the revised LIHI certification criteria described in the 2016 version of LIHI's certification handbook.

Erie has reviewed the project descriptions for the Oswego River Project that is posted on the LIHI website and determined that they are an accurate representation of the subject Project. The information provided in this recertification application provides an update to support a new LIHI certification.

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### PART I. FACILITY DESCRIPTION

The key features of the Oswego River Hydroelectric Project are described in Tables 1 through 3. A description of the Projects can be found on the LIHI website at <http://lowimpacthydro.org/lihi-certificate-35b-oswego-river-project-new-york-2/>.

**Table I-1. Facility Description Information for the Fulton Development of the Oswego River Project (LIHI 35B).**

<i>Information Type</i>	<i>Variable Description</i>	<i>Response (and reference to further details)</i>
<b>Name of the Facility</b>	Facility name (use FERC project name if possible)	Oswego River Project (FERC No. 2474) <i>Fulton Development</i>
<b>Location</b>	River name (USGS proper name)	Oswego River
	River basin name	Oswego River Basin
	Nearest town, county, and state	Fulton, Oswego County, New York
	River mile of dam above next major river	RM 11.6
	Geographic latitude	43.3234 N
	Geographic longitude	-76.4202 W
<b>Facility Owner</b>	Application contact names (IMPORTANT: you must also complete the Facilities Contact Form):	See Part V of the LIHI certification application for more information.
	- Facility owner (individual and company names)	Erie Boulevard Hydropower, L.P.
	- Operating affiliate (if different from owner)	Same as above
	- Representative in LIHI certification	Daniel Daoust, Compliance Specialist
<b>Regulatory Status</b>	FERC Project Number (e.g., P-xxxxx), issuance and expiration dates	FERC Project Number 2474  New license issued on November 30, 2004  The Oswego River Settlement Agreement dated April 7, 2003 was filed with FERC on February 19, 2004  License expires October 31, 2044
	FERC license type or special classification (e.g., "qualified conduit")	License for major project (>5 MW)
	Water Quality Certificate identifier and issuance date, plus source agency name	The Section 401 Water Quality Certificate (WQC) was issued by the New York State Department of Environmental Conservation (NYSDEC) on November 30, 2004 and adopted into Article 401 of the FERC License.
	Hyperlinks to key electronic records on FERC e-library website (e.g., most recent Commission Orders, WQC, ESA documents, etc.)	February 19, 2004 Settlement Agreement: <a href="http://elibrary-backup.ferc.gov:0/idmws/file_list.asp?document_id=4179773">http://elibrary-backup.ferc.gov:0/idmws/file_list.asp?document_id=4179773</a>

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		<p>October 4, 2004 401 WQC: <a href="http://elibrary-backup.ferc.gov:0/idmws/file_list.asp?document_id=4255184">http://elibrary-backup.ferc.gov:0/idmws/file_list.asp?document_id=4255184</a></p> <p>November 30, 2004 License Order: <a href="http://elibrary-backup.ferc.gov:0/idmws/file_list.asp?document_id=4256028">http://elibrary-backup.ferc.gov:0/idmws/file_list.asp?document_id=4256028</a></p>
<b><i>Power Plant Characteristics</i></b>	Date of initial operation (past or future for operational applications)	1925
	Total name-plate capacity (MW)	<p>Oswego River Project:  <i>Fulton Development</i> – 1.25 MW  <i>Minetto Development</i> – 8.0 MW  <i>Varick Development</i> – 8.8 MW  <b>Total Installed Capacity – 18.05 MW</b></p>
	Average annual generation (MWh)	The average annual generation is estimated at 3,297 MWh from 2012-2013. Fulton has been offline for repairs since 2014.
	Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit	<p>Generating Units: 2</p> <p>Type: vertical fixed propeller</p> <p>Description of Turbines:  Unit 1: 800 kW  Unit 2: 450 kW</p> <p>Maximum Capacity:  Unit 1: 960 cfs  Unit 2: 475 cfs</p> <p>Minimum Capacity:  Unit 1: 800 cfs (efficient)  Unit 2: 400 cfs (efficient)</p>
	Modes of operation (run-of-river, peaking, pulsing, seasonal storage, etc.)	Modified run-of-river
	Dates and types of major equipment upgrades	<ul style="list-style-type: none"> <li>• 1925 – Development was constructed.</li> <li>• 1986-1987 – Major Rehabilitation of the Powerhouse and associated facilities.</li> <li>• 1987 - Tailrace Retaining Wall Repairs.</li> <li>• 2007 – Constructed fish protection and fish passage improvements.</li> <li>• 2016-2017 – the two existing hydro generating units were replaced with new generating units</li> </ul>
	Dates, purpose, and type of any recent operational changes	There have been no operational changes since the issuance of the 2004 license.

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	Plans, authorization, and regulatory activities for any facility upgrades	N/A															
<b>Characteristics of Dam, Diversion, or Conduit</b>	Date of construction	1925															
	Dam height	15 feet high, 509 feet long															
	Spillway elevation and hydraulic capacity	334.0 feet; 14,000 cfs															
	Tailwater elevation	320 - 325 feet for flows ranging from 36,000 – 60,000 cfs															
	Length and type of all penstocks and water conveyance structures between reservoir and powerhouse	Not applicable.															
	Dates and types of major, generation-related infrastructure improvements	Replacement of two existing hydro generating units with two new hydro generating units.															
	Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.)	The purpose of the development is for the generation of electricity, and is operated in cooperation with a dam and lock operated by NYSCC for the primary purpose of navigation. There is fishing recreation associated with the project waters.															
	Water source	Oswego River															
	Water discharge location or facility	Oswego River															
<b>Characteristics of Reservoir and Watershed</b>	Gross volume and surface area at full pool	250 acre-feet; 33 acres															
	Maximum water surface elevation (ft. MSL)	Normal pool elevation is 334.5 msl; available drawdown of 0.5 feet.															
	Maximum and minimum volume and water surface elevations for designated power pool, if available	341.0 feet maximum; 333.0 feet minimum															
	Upstream dam(s) by name, ownership, FERC number (if applicable), and river mile	Oswego Falls Project, Erie Boulevard Hydropower, L.P., FERC No. 5984, RM 12.3															
	Downstream dam(s) by name, ownership, FERC number (if applicable), and river mile	Minetto Development of the Oswego River Project, Erie Boulevard Hydropower, L.P., FERC No. 2474, RM 5.1															
	Operating agreements with upstream or downstream reservoirs that affect water availability, if any, and facility operation	Inflow to the reservoir is essentially the same as discharge from the Oswego Falls Project. The Fulton Development operates in conjunction with the Granby Project.															
	Area inside FERC project boundary, where appropriate	The reservoir is located entirely within the FERC project boundary															
<b>Hydrologic Setting</b>	Average annual flow at the dam	6,811 cfs (period 1/1/2012-12/31/2016)															
	Average monthly flows	<table> <tr><td>January</td><td>10,246 cfs</td></tr> <tr><td>February</td><td>8,204 cfs</td></tr> <tr><td>March</td><td>7,859 cfs</td></tr> <tr><td>April</td><td>10,861 cfs</td></tr> <tr><td>May</td><td>6,953 cfs</td></tr> <tr><td>June</td><td>7,475 cfs</td></tr> <tr><td>July</td><td>4,383 cfs</td></tr> <tr><td>August</td><td>2,818 cfs</td></tr> </table>	January	10,246 cfs	February	8,204 cfs	March	7,859 cfs	April	10,861 cfs	May	6,953 cfs	June	7,475 cfs	July	4,383 cfs	August
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May	6,953 cfs																
June	7,475 cfs																
July	4,383 cfs																
August	2,818 cfs																

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		September 1,861 cfs October 4,497 cfs November 5,741 cfs December 10,823 cfs  (period 1/1/2012 – 12/31/2016)
	Location and name of relevant stream gauging stations above and below the facility	USGS gage no. 04249000
	Watershed area at the dam	5,081 square miles
<b><i>Designated Zones of Effect</i></b>	Number of zones of effect	There are three zones of effect
	Upstream and downstream locations by river miles	Zone 1: 11.5 RM to 12.02 RM Zone 2: 11.5 RM to 11.62 RM Zone 3: 11.5 RM to 11.6 RM
	Type of waterbody (river, impoundment, bypassed reach, etc.)	Zone 1: Reservoir Zone 2: Bypass reach Zone 3: Project tailrace
	Delimiting structures	Zone 1: Fulton Development dam upstream 0.52 miles to Oswego Falls tailrace. Zone 2: Fulton Dam downstream .12 miles to the confluence of bypass reach and tailrace. Zone 3: Fulton Development powerhouse .1 miles downstream to confluence of bypass reach and tailrace.
	Designated uses by state water quality agency	Zone 1 – Zone 3: Non-trout Class B. . For Class B waters, designated best usages are primary and secondary contact recreation and fishing; they are also suitable for fish propagation and survival.
<b><i>Additional Contact Information</i></b>	Names, addresses, phone numbers, and e-mail for local state and federal resource agencies	See Part V of the LIHI certification application for more information.
	Names, addresses, phone numbers, and e-mail for local non-governmental stakeholders	See Part V of the LIHI certification application for more information.
<b><i>Photographs and Maps</i></b>	Photographs of key features of the facility and each of the designated zones of effect	See appendix B.
	Maps, aerial photos, and/or plan view diagrams of facility area and river basin	See appendix C.

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**Table I-2. Facility Description Information for the Minetto Development of the Oswego River Project (LIHI 35B)**

<i>Information Type</i>	<i>Variable Description</i>	<i>Response (and reference to further details)</i>
<b>Name of the Facility</b>	Facility name (use FERC project name if possible)	Oswego River Project (FERC No. 2474) <i>Minetto Development</i>
<b>Location</b>	River name (USGS proper name)	Oswego River
	River basin name	Oswego River Basin
	Nearest town, county, and state	Oswego, Oswego County, New York
	River mile of dam above next major river	RM 5.1
	Geographic latitude	43.4 N
	Geographic longitude	-76.4725 W
<b>Facility Owner</b>	Application contact names (IMPORTANT: you must also complete the Facilities Contact Form):	See Part V of the LIHI certification application for more information.
	- Facility owner (individual and company names)	Erie Boulevard Hydropower, L.P.
	- Operating affiliate (if different from owner)	Same as above
	- Representative in LIHI certification	Daniel Daoust, Compliance Specialist
<b>Regulatory Status</b>	FERC Project Number (e.g., P-xxxxx), issuance and expiration dates	FERC Project Number 2474  New license issued on November 30, 2004  The Oswego River Settlement Agreement dated April 7, 2003 was filed with FERC on February 19, 2004  License expires October 31, 2044
	FERC license type or special classification (e.g., "qualified conduit")	License for major project (>5 MW)
	Water Quality Certificate identifier and issuance date, plus source agency name	The Section 401 Water Quality Certificate (WQC) was issued by the New York State Department of Environmental Conservation (NYSDEC) on October 4, 2004 and adopted into Article 401 of the FERC License.
	Hyperlinks to key electronic records on FERC e-library website (e.g., most recent Commission Orders, WQC, ESA documents, etc.)	February 19, 2004 Settlement Agreement: <a href="http://elibrary-backup.ferc.gov:0/idmws/file_list.asp?document_id=4179773">http://elibrary-backup.ferc.gov:0/idmws/file_list.asp?document_id=4179773</a>  October 4, 2004 401 WQC: <a href="http://elibrary-backup.ferc.gov:0/idmws/file_list.asp?document_id=4255184">http://elibrary-backup.ferc.gov:0/idmws/file_list.asp?document_id=4255184</a>

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		November 30, 2004 License Order: <a href="http://elibrary-backup.ferc.gov:0/idmws/file_list.asp?document_id=4256028">http://elibrary-backup.ferc.gov:0/idmws/file_list.asp?document_id=4256028</a>
<b>Power Plant Characteristics</b>	Date of initial operation (past or future for operational applications)	
	Total name-plate capacity (MW)	Oswego River Project: <i>Fulton Development</i> – 1.25 MW <i>Minetto Development</i> – 8.0 MW <i>Varick Development</i> – 8.8 MW <b>Total Installed Capacity – 18.05 MW</b>
	Average annual generation (MWh)	The average annual generation for the Minetto Development from 2015-2016 is approximately 29,447 MWh
	Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit	Generating Units: 5
		Type: Vertical I.P. Morris Francis turbines
		Description of Turbines: Unit 1: 1.6 MW Unit 2: 1.6 MW Unit 3: 1.6 MW Unit 4: 1.6 MW Unit 5: 1.6 MW
		Maximum Capacity: Unit 1: 1,350 cfs Unit 2: 1,350 cfs Unit 3: 1,350 cfs Unit 4: 1,350 cfs Unit 5: 1,350 cfs
		Minimum Capacity: Unit 1: 980 cfs (efficient) Unit 2: 980 cfs (efficient) Unit 3: 980 cfs (efficient) Unit 4: 980 cfs (efficient) Unit 5: 980 cfs (efficient)
Modes of operation (run-of-river, peaking, pulsing, seasonal storage, etc.)	Modified run-of-river	
Dates and types of major equipment upgrades	No major equipment upgrades have been made.	
Dates, purpose, and type of any recent operational changes	There have been no operational changes since the issuance of the 2004 license.	
Plans, authorization, and regulatory activities for any facility upgrades	There are no current plans for any facility upgrades.	
<b>Character-</b>	Date of construction	1915

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<i>istics of Dam, Diversion, or Conduit</i>	Dam height	22.5 feet high
	Spillway elevation and hydraulic capacity	307.0 feet; 45,000 cfs
	Tailwater elevation	290 – 296 for flows ranging from 0 to 20,000 cfs
	Length and type of all penstocks and water conveyance structures between reservoir and powerhouse	N/A
	Dates and types of major, generation-related infrastructure improvements	Old motor generator set exciters retired and removed in 2004.
	Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.)	The purpose of the development is for the generation of electricity, and is operated in cooperation with a dam and lock operated by NYCC for the primary purpose of navigation. There is fishing recreation associated with the project waters.
	Water source	Oswego River
	Water discharge location or facility	Oswego River
	<i>Characteristics of Reservoir and Watershed</i>	Gross volume and surface area at full pool
Maximum water surface elevation (ft. MSL)		Normal pool elevation of 307.8 with a 0.5 reservoir fluctuation
Maximum and minimum volume and water surface elevations for designated power pool, if available		N/A
Upstream dam(s) by name, ownership, FERC number (if applicable), and river mile		Fulton Development of the Oswego River Project Erie Boulevard Hydropower, L.P., FERC No. 2474, RM 11.5
Downstream dam(s) by name, ownership, FERC number (if applicable), and river mile		Varick Development of the Oswego River Project Erie Boulevard Hydropower, L.P., FERC No. 2474, RM 1.4
Operating agreements with upstream or downstream reservoirs that affect water availability, if any, and facility operation		Inflow to the Minetto Development is dependent upon the outflow of the upstream Fulton Development and the Granby Project.
Area inside FERC project boundary, where appropriate		The reservoir is located entirely within the FERC project boundary.
<i>Hydrologic Setting</i>		Average annual flow at the dam
	Average monthly flows	January 10,246 cfs February 8,204 cfs March 7,859 cfs April 10,861 cfs May 6,953 cfs June 7,475 cfs July 4,383 cfs August 2,818 cfs September 1,861 cfs October 4,497 cfs November 5,741 cfs

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		December 10,823 cfs (period 1/1/2012 – 12/31/2016)
	Location and name of relevant stream gauging stations above and below the facility	USGS 04249000 Oswego River at Lock 7, Oswego, NY
	Watershed area at the dam	5,092 square miles
<b><i>Designated Zones of Effect</i></b>	Number of zones of effect	There are 3 zones of effect at the Minetto Development
	Upstream and downstream locations by river miles	Zone 1: 5.1 RM to 11.2 RM Zone 2: 5.1 RM to 4.95 RM Zone 3: 5.1 RM to 4.97 RM
	Type of waterbody (river, impoundment, bypassed reach, etc.)	Zone 1: Reservoir Zone 2: Bypass Reach Zone 3: Tailrace
	Delimiting structures	Zone 1: Minetto Dam upstream 6.1 RM to Fulton tailrace Zone 2: Minetto Dam downstream .15 RM to confluence of Minetto Development tailrace Zone 3: Minetto Dam downstream .13 RM to confluence of Minetto Development tailrace
	Designated uses by state water quality agency	The waters within the Minetto Development are classified by NYSDEC as non-trout Class B waters. For Class B waters, designated best usages are primary and secondary contact recreation and fishing; they are also suitable for fish propagation and survival.
<b><i>Additional Contact Information</i></b>	Names, addresses, phone numbers, and e-mail for local state and federal resource agencies	See Part V of the LIHI certification application for more information.
	Names, addresses, phone numbers, and e-mail for local non-governmental stakeholders	See Part V of the LIHI certification application for more information.
<b><i>Photographs and Maps</i></b>	Photographs of key features of the facility and each of the designated zones of effect	See appendix B.
	Maps, aerial photos, and/or plan view diagrams of facility area and river basin	See appendix C.

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**Table I-3. Facility Description Information for the Varick Development of the Oswego River Project (LIHI 35B)**

<i>Information Type</i>	<i>Variable Description</i>	<i>Response (and reference to further details)</i>
<b>Name of the Facility</b>	Facility name (use FERC project name if possible)	Oswego River Project (FERC No. 2474) <i>Varick Development</i>
<b>Location</b>	River name (USGS proper name)	Oswego River
	River basin name	Oswego River Basin
	Nearest town, county, and state	City of Oswego, Oswego County, New York
	River mile of dam above next major river	RM 1.4
	Geographic latitude	43.4468 N
	Geographic longitude	-76.5042 W
<b>Facility Owner</b>	Application contact names (IMPORTANT: you must also complete the Facilities Contact Form):	See Part V of the LIHI certification application for more information.
	- Facility owner (individual and company names)	Erie Boulevard Hydropower, L.P.
	- Operating affiliate (if different from owner)	Same as above
	- Representative in LIHI certification	Daniel Daoust, Compliance Specialist
<b>Regulatory Status</b>	FERC Project Number (e.g., P-xxxxx), issuance and expiration dates	FERC Project Number 2474  New license issued on November 30, 2004  The Oswego River Settlement Agreement dated April 7, 2003 was filed with FERC on February 19, 2004  License expires October 31, 2044
	FERC license type or special classification (e.g., "qualified conduit")	License for major project (>5 MW)
	Water Quality Certificate identifier and issuance date, plus source agency name	The Section 401 Water Quality Certificate (WQC) was issued by the New York State Department of Environmental Conservation (NYSDEC) on October 4, 2004 and adopted into Article 401 of the FERC License.
	Hyperlinks to key electronic records on FERC e-library website (e.g., most recent Commission Orders, WQC, ESA documents, etc.)	February 19, 2004 Settlement Agreement: <a href="http://elibrary-backup.ferc.gov:0/idmws/file_list.asp?document_id=4179773">http://elibrary-backup.ferc.gov:0/idmws/file_list.asp?document_id=4179773</a>  October 4, 2004 401 WQC: <a href="http://elibrary-backup.ferc.gov:0/idmws/file_list.asp?document_id=4255184">http://elibrary-backup.ferc.gov:0/idmws/file_list.asp?document_id=4255184</a>  November 30, 2004 License Order: <a href="http://elibrary-">http://elibrary-</a>

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		<a href="http://backup.ferc.gov:0/idmws/file_list.asp?document_id=4256028">backup.ferc.gov:0/idmws/file_list.asp?document_id=4256028</a>
<b>Power Plant Characteristics</b>	Date of initial operation (past or future for operational applications)	1926
	Total name-plate capacity (MW)	Oswego River Project: <i>Fulton Development</i> – 1.25 MW <i>Minetto Development</i> – 8.0 MW <i>Varick Development</i> – 8.8 MW <b>Total Installed Capacity – 18.05 MW</b>
	Average annual generation (MWh)	The average annual generation for the Varick Development from 2015-2016 is approximately 29,447 MWh
	Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit	Generating Units: 4  Type: vertical, propeller-type, Allis-Chalmers  Description of Turbines: Unit 1: 2.2 MW Unit 2: 2.2 MW Unit 3: 2.2 MW Unit 4: 2.2 MW  Maximum Capacity: Unit 1: 1,340 cfs Unit 2: 1,340 cfs Unit 3: 1,340 cfs Unit 4: 1,340 cfs  Minimum Capacity: Unit 1: 1,270 cfs (efficient) Unit 2: 1,270 cfs (efficient) Unit 3: 1,270 cfs (efficient) Unit 4: 1,270 cfs (efficient)
	Modes of operation (run-of-river, peaking, pulsing, seasonal storage, etc.)	Modified run-of-river
	Dates and types of major equipment upgrades	2005 – Constructed Low Level Diversion Structure in the Varick Bypass Reach.
	Dates, purpose, and type of any recent operational changes	There have been no operational changes at the project since issuance of the 2004 license.
	Plans, authorization, and regulatory activities for any facility upgrades	N/A
	<b>Characteristics of Dam, Diversion, or Conduit</b>	Date of construction
Dam height		13 feet high, 730 feet long
Spillway elevation and hydraulic capacity		267.5 feet curved section, 269.0 straight section, 41,000 cfs
Tailwater elevation		256.1 feet

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	Length and type of all penstocks and water conveyance structures between reservoir and powerhouse	N/A																							
	Dates and types of major, generation-related infrastructure improvements	N/A																							
	Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.)	The purpose of the development is for the generation of electricity, and is operated in cooperation with a dam and lock operated by NYSCC for the primary purpose of navigation. There is fishing recreation associated with the project waters.																							
	Water source	Oswego River																							
	Water discharge location or facility	Oswego River																							
<b><i>Characteristics of Reservoir and Watershed</i></b>	Gross volume and surface area at full pool	210 acre-feet; 32 acres																							
	Maximum water surface elevation (ft. MSL)	Under normal operating conditions, the water level is maintained at elevation 270.0																							
	Maximum and minimum volume and water surface elevations for designated power pool, if available	N/A																							
	Upstream dam(s) by name, ownership, FERC number (if applicable), and river mile	Minetto Development of the Oswego River Project, Erie Boulevard Hydropower, L.P., RM 5.1 and the High Dam Project (P-10551), City of Oswego																							
	Downstream dam(s) by name, ownership, FERC number (if applicable), and river mile	N/A																							
	Operating agreements with upstream or downstream reservoirs that affect water availability, if any, and facility operation	The Varick Development is dependent upon the outflow of the upstream Minetto Development and the High Dam Project																							
	Area inside FERC project boundary, where appropriate	The reservoir is located entirely within the FERC project boundary																							
<b><i>Hydrologic Setting</i></b>	Average annual flow at the dam	6,811 cfs (period 1/1/2012-12/31/2016)																							
	Average monthly flows	<table> <tr><td>January</td><td>10,246 cfs</td></tr> <tr><td>February</td><td>8,204 cfs</td></tr> <tr><td>March</td><td>7,859 cfs</td></tr> <tr><td>April</td><td>10,861 cfs</td></tr> <tr><td>May</td><td>6,953 cfs</td></tr> <tr><td>June</td><td>7,475 cfs</td></tr> <tr><td>July</td><td>4,383 cfs</td></tr> <tr><td>August</td><td>2,818 cfs</td></tr> <tr><td>September</td><td>1,861 cfs</td></tr> <tr><td>October</td><td>4,497 cfs</td></tr> <tr><td>November</td><td>5,741 cfs</td></tr> <tr><td>December</td><td>10,823 cfs</td></tr> </table> (period 1/1/2012 – 12/31/2016)	January	10,246 cfs	February	8,204 cfs	March	7,859 cfs	April	10,861 cfs	May	6,953 cfs	June	7,475 cfs	July	4,383 cfs	August	2,818 cfs	September	1,861 cfs	October	4,497 cfs	November	5,741 cfs	December
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October	4,497 cfs																								
November	5,741 cfs																								
December	10,823 cfs																								

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	Location and name of relevant stream gauging stations above and below the facility	USGS Gage No. 04249000
	Watershed area at the dam	5,097 square miles
<b><i>Designated Zones of Effect</i></b>	Number of zones of effect	There are three zones of effect at the Varick Project
	Upstream and downstream locations by river miles	Zone 1: RM 1.4 to RM 5.11 Zone 2: RM 1.4 to RM 1.17 Zone 3: RM 1.4 to RM 1.19
	Type of waterbody (river, impoundment, bypassed reach, etc.)	Zone 1: Reservoir Zone 2: Bypass Reach Zone 3: Tailrace
	Delimiting structures	Zone 1: Varick Dam upstream 3.71 miles to the Minetto Tailrace Zone 2: Varick Dam downstream .23 miles to the confluence of the Varick Development tailrace Zone 3: Varick Dam downstream .21 miles to the confluence of the Varick Development tailrace
	Designated uses by state water quality agency	Waters in the Varick Development are designated by NYSDEC as Class C waters. The best usage of Class C waters is fishing, and they are also suitable for fish propagation and survival, as well as primary and secondary contact recreation, where such use is not limited by other factors.
<b><i>Additional Contact Information</i></b>	Names, addresses, phone numbers, and e-mail for local state and federal resource agencies	See Part V of the LIHI certification application for more information.
	Names, addresses, phone numbers, and e-mail for local non-governmental stakeholders	See Part V of the LIHI certification application for more information.
<b><i>Photographs and Maps</i></b>	Photographs of key features of the facility and each of the designated zones of effect	See appendix B.
	Maps, aerial photos, and/or plan view diagrams of facility area and river basin	See appendix C.

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## PART II. STANDARD MATRICES

The Oswego River Hydroelectric Project, composed of the Fulton, Minetto, and Varick developments has a total of nine zones of effect for this application. Images depicting the Zones of Effect for each development are included in Appendix A. Project maps and aeriels are included in Appendix C.

The Fulton Development, located at River Mile (RM) 11.6 has three zones of effect that are defined as: (1) Zone one, the reservoir, (2) Zone two, the bypass reach, and (3) Zone three, the tailrace.



The Minetto Development, located at RM 5.1 has three zones of effect that are defined as: (1) Zone one, the reservoir, (2) Zone two, the bypass reach, and (3) Zone three, the tailrace.

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The Varick Development, located at RM 1.4 has three zones of effect that are defined as: (1) Zone one, the reservoir, (2) Zone two, the bypass reach, and (3) Zone three, the tailrace.



## Oswego River Project Recertification Application

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

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**Table II-1. LIHI Standards Selected for Zone of Effect No. 1 for the Fulton Development**

Criterion		Alternative Standards				
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>Plus</i>
<b>A</b>	<b>Ecological Flow Regimes</b>	<i>X</i>				
<b>B</b>	<b>Water Quality</b>		<i>X</i>			
<b>C</b>	<b>Upstream Fish Passage</b>	<i>X</i>				
<b>D</b>	<b>Downstream Fish Passage</b>	<i>X</i>				
<b>E</b>	<b>Watershed and Shoreline Protection</b>	<i>X</i>				
<b>F</b>	<b>Threatened and Endangered Species Protection</b>		<i>X</i>			
<b>G</b>	<b>Cultural and Historic Resources Protection</b>		<i>X</i>			
<b>H</b>	<b>Recreational Resources</b>		<i>X</i>			

**Table II-2. LIHI Standards Selected for Zone of Effect No. 2 for the Fulton Development**

Criterion		Alternative Standards				
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>Plus</i>
<b>A</b>	<b>Ecological Flow Regimes</b>		<i>X</i>			
<b>B</b>	<b>Water Quality</b>		<i>X</i>			
<b>C</b>	<b>Upstream Fish Passage</b>		<i>X</i>			
<b>D</b>	<b>Downstream Fish Passage</b>		<i>X</i>			
<b>E</b>	<b>Watershed and Shoreline Protection</b>	<i>X</i>				
<b>F</b>	<b>Threatened and Endangered Species Protection</b>		<i>X</i>			
<b>G</b>	<b>Cultural and Historic Resources Protection</b>		<i>X</i>			
<b>H</b>	<b>Recreational Resources</b>		<i>X</i>			

**Table II-3. LIHI Standards Selected for Zone of Effect No. 3 for the Fulton Development**

Criterion		Alternative Standards				
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>Plus</i>
<b>A</b>	<b>Ecological Flow Regimes</b>		<i>X</i>			
<b>B</b>	<b>Water Quality</b>		<i>X</i>			
<b>C</b>	<b>Upstream Fish Passage</b>	<i>X</i>				
<b>D</b>	<b>Downstream Fish Passage</b>		<i>X</i>			
<b>E</b>	<b>Watershed and Shoreline Protection</b>	<i>X</i>				
<b>F</b>	<b>Threatened and Endangered Species Protection</b>		<i>X</i>			
<b>G</b>	<b>Cultural and Historic Resources Protection</b>		<i>X</i>			
<b>H</b>	<b>Recreational Resources</b>		<i>X</i>			

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**Table II-4. LIHI Standards Selected for Zone of Effect No. 1 for the Minetto Development**

Criterion		Alternative Standards				
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>Plus</i>
<b>A</b>	<b>Ecological Flow Regimes</b>	<i>X</i>				
<b>B</b>	<b>Water Quality</b>		<i>X</i>			
<b>C</b>	<b>Upstream Fish Passage</b>	<i>X</i>				
<b>D</b>	<b>Downstream Fish Passage</b>	<i>X</i>				
<b>E</b>	<b>Watershed and Shoreline Protection</b>	<i>X</i>				
<b>F</b>	<b>Threatened and Endangered Species Protection</b>		<i>X</i>			
<b>G</b>	<b>Cultural and Historic Resources Protection</b>		<i>X</i>			
<b>H</b>	<b>Recreational Resources</b>		<i>X</i>			

**Table II-5. LIHI Standards Selected for Zone of Effect No. 2 for the Minetto Development**

Criterion		Alternative Standards				
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>Plus</i>
<b>A</b>	<b>Ecological Flow Regimes</b>	<i>X</i>				
<b>B</b>	<b>Water Quality</b>		<i>X</i>			
<b>C</b>	<b>Upstream Fish Passage</b>		<i>X</i>			
<b>D</b>	<b>Downstream Fish Passage</b>		<i>X</i>			
<b>E</b>	<b>Watershed and Shoreline Protection</b>	<i>X</i>				
<b>F</b>	<b>Threatened and Endangered Species Protection</b>		<i>X</i>			
<b>G</b>	<b>Cultural and Historic Resources Protection</b>		<i>X</i>			
<b>H</b>	<b>Recreational Resources</b>		<i>X</i>			

**Table II-6. LIHI Standards Selected for Zone of Effect No. 3 for the Minetto Development**

Criterion		Alternative Standards				
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>Plus</i>
<b>A</b>	<b>Ecological Flow Regimes</b>		<i>X</i>			
<b>B</b>	<b>Water Quality</b>		<i>X</i>			
<b>C</b>	<b>Upstream Fish Passage</b>	<i>X</i>				
<b>D</b>	<b>Downstream Fish Passage</b>		<i>X</i>			
<b>E</b>	<b>Watershed and Shoreline Protection</b>	<i>X</i>				
<b>F</b>	<b>Threatened and Endangered Species Protection</b>		<i>X</i>			
<b>G</b>	<b>Cultural and Historic Resources Protection</b>		<i>X</i>			
<b>H</b>	<b>Recreational Resources</b>		<i>X</i>			

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**Table II-7. LIHI Standards Selected for Zone of Effect No. 1 for the Varick Development**

Criterion		Alternative Standards				
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>Plus</i>
<b>A</b>	<b>Ecological Flow Regimes</b>	<i>X</i>				
<b>B</b>	<b>Water Quality</b>		<i>X</i>			
<b>C</b>	<b>Upstream Fish Passage</b>	<i>X</i>				
<b>D</b>	<b>Downstream Fish Passage</b>	<i>X</i>				
<b>E</b>	<b>Watershed and Shoreline Protection</b>	<i>X</i>				
<b>F</b>	<b>Threatened and Endangered Species Protection</b>		<i>X</i>			
<b>G</b>	<b>Cultural and Historic Resources Protection</b>		<i>X</i>			
<b>H</b>	<b>Recreational Resources</b>		<i>X</i>			

**Table II-8. LIHI Standards Selected for Zone of Effect No. 2 for the Varick Development**

Criterion		Alternative Standards				
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>Plus</i>
<b>A</b>	<b>Ecological Flow Regimes</b>				<i>X</i>	
<b>B</b>	<b>Water Quality</b>		<i>X</i>			
<b>C</b>	<b>Upstream Fish Passage</b>		<i>X</i>			
<b>D</b>	<b>Downstream Fish Passage</b>		<i>X</i>			
<b>E</b>	<b>Watershed and Shoreline Protection</b>	<i>X</i>				
<b>F</b>	<b>Threatened and Endangered Species Protection</b>		<i>X</i>			
<b>G</b>	<b>Cultural and Historic Resources Protection</b>		<i>X</i>			
<b>H</b>	<b>Recreational Resources</b>		<i>X</i>			

**Table II-9. LIHI Standards Selected for Zone of Effect No. 3 for the Varick Development**

Criterion		Alternative Standards				
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>Plus</i>
<b>A</b>	<b>Ecological Flow Regimes</b>	<i>X</i>				
<b>B</b>	<b>Water Quality</b>		<i>X</i>			
<b>C</b>	<b>Upstream Fish Passage</b>	<i>X</i>				
<b>D</b>	<b>Downstream Fish Passage</b>		<i>X</i>			
<b>E</b>	<b>Watershed and Shoreline Protection</b>	<i>X</i>				
<b>F</b>	<b>Threatened and Endangered Species Protection</b>		<i>X</i>			
<b>G</b>	<b>Cultural and Historic Resources Protection</b>		<i>X</i>			
<b>H</b>	<b>Recreational Resources</b>		<i>X</i>			

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## 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).

### FULTON DEVELOPMENT

#### Information Required to Support Ecological Flows Standards.

##### III.A.1 Ecological Flows: Fulton Development Zone 1

A	1	<u>Not Applicable / De Minimis Effect:</u> <ul style="list-style-type: none"><li>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.</li><li>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.</li><li>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.</li><li>• For reservoir zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – <b>NOTE:</b> this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All reservoir zones can apply Criterion A-1 to pass this criterion.</li></ul>
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- Zone 1 is the Fulton Development reservoir.
- Pursuant to Articles 401 and 403 of the 2004 FERC license order, the Oswego River Project is operated in modified run-of-river (MROR) mode as described in Section 3.1.2 of the 2004 Offer of Settlement with a 0.5 foot (year-round) measured in a downward direction from the permanent crest of the dam or the top of the flashboards when in place. 2004 Offer of Settlement is here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10073003>.

The Licensee monitors reservoir elevations at the Fulton Development with remote gaging equipment pursuant to the Stream Flow and Water Level Monitoring Plan pursuant to Article 401 and approved by FERC on June 12, 2015. FERC order approving Stream Flow and Water Level Monitoring Plan is here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13902546>. The equipment measures reservoir elevations to a 0.1 of an inch every minute and calculates an hourly average elevation which is reported to the Licensee’s systems control center. The Licensee maintains records documenting compliance with flow and reservoir level conditions.

- The Fulton Development is not a conduit project; therefore this item is not applicable.
- The Fulton Development is subject to a variety of fish protection measures (Articles 401, 402, 403, 404, 405, 406, and 407). The fish protection measures and fish friendly flow

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releases (Article 407) provide riverine and migratory species with routes to freely move downstream.

### **III.A.2 Ecological Flows: Fulton Development Zone 2**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
A	2	<p><u>Agency Recommendation (see Appendix A for definitions):</u></p> <ul style="list-style-type: none"> <li>• 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).</li> <li>• 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.</li> <li>• Explain how the recommendation relates to agency management goals and objectives for fish and wildlife.</li> <li>• 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).</li> </ul>

- Zone 2 is the bypass reach of the Fulton Development.
- Pursuant to Article 405 of the license, the Licensee is required to release fish friendly bypass-flows of 75 cfs (65-86) from the sluice gate adjacent to the Fulton powerhouse year-round. The bypassed reach flows required in Article 405 increase the amount of aquatic habitat in the Fulton bypassed reach. A flow recommendation of 75 cfs was proposed by Niagara Mohawk Power Corporation (NMPC), U.S. Fish and Wildlife Service (USFWS), and the New York State Department of Environmental Conservation (NYSDEC) based on results of the Instream Flow Incremental Methodology (IFIM) studies conducted during licensing. It was agreed that providing a continuous 75 cfs to the bypassed reach would increase macroinvertebrate production and use of the reach by both forage and recreationally important species of fish. Results of the IFIM study are discussed in further detail in the Final Environmental Assessment here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8314774>.
- The fish protection measures and fish friendly flows pursuant to Article 407 provide riverine and migratory species with routes to freely move downstream.

### **III.A.3 Ecological Flows: Fulton Development Zone 3**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
A	2	<p><u>Agency Recommendation (see Appendix A for definitions):</u></p> <ul style="list-style-type: none"> <li>• 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).</li> <li>• Explain the scientific or technical basis for the agency recommendation, including methods and data used. This is required regardless of whether the</li> </ul>

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<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
		<p>recommendation is or is not part of a Settlement Agreement.</p> <ul style="list-style-type: none"> <li>• Explain how the recommendation relates to agency management goals and objectives for fish and wildlife.</li> <li>• 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).</li> </ul>

- Zone 3 is the tailrace of the Fulton Development.
- Pursuant to Article 404, the Licensee is required to release a base-flow downstream of the powerhouse at the Fulton Development of 800 cfs or inflow (whichever is less) for walleye spawning and 300 cfs at all other times. The beginning of walleye spawning season begins when water temperature is  $\geq 4^{\circ}\text{C}$  for four consecutive days after March 15<sup>th</sup> of each year. The end of walleye spawning season ends 30 days after the water temperature  $\geq 10^{\circ}\text{C}$  for 4 consecutive days.
- A base-flow recommendation downstream of the powerhouse at the Fulton Development of 800 cfs during walleye spawning and 300 cfs at all other times was proposed by Niagara Mohawk Power Corporation (NMPC), U.S. Fish and Wildlife Service (USFWS), and the New York State Department of Environmental Conservation (NYSDEC) based on results of the Instream Flow Incremental Methodology (IFIM) studies conducted during licensing. It was agreed that providing 800 cfs during walleye spawning and 300 cfs at all other times to the lower bypassed reach would increase macroinvertebrate production and use of the reach by both forage and recreationally important species of fish. Results of the IFIM study are discussed in further detail in the Final Environmental Assessment here <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8314774>.
- The fish protection measures and base-flows pursuant to Article 404 provide riverine and migratory species with routes to freely move downstream.

### Information Required to Support Water Quality Standards

#### III.B.1 Water Quality: Fulton Development Zone 1

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
B	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.</li> <li>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.</li> <li>• 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.</li> </ul>

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- The portion of the Oswego River from Lock 6 in Oswego to 0.6 miles upstream of Lock 2 in Fulton is listed as impaired on the 2016 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy for PCB contaminated sediments. Listing is here: <http://www.dec.ny.gov/chemical/31290.html>. The cause of this impairment is not related to the Oswego River Project.

The Oswego River is subject to water quality programs beyond those required by the Clean Water Act and NYSDEC. The Oswego River Harbor (from the mouth at Lake Ontario to just below Dam No. 7 – Varick) was designated as one of the original 43 Areas of Concern under Annex 2 of the 1987 U.S.-Canada Great Lakes Water Quality Agreement. A Remedial Action Plan (RAP), administered by the U.S. EPA and implemented by NYSDEC was developed for the Oswego River/Harbor in 1987. Through stages 1 and 2 of the RAP, beneficial use impairments, as well as their causes and sources, and remedial actions were identified. The fourteen beneficial use impairment indicators were developed by the International Joint Commission in Annex 2. In the 1990 RAP Stage 1 document, four of these indicators were identified as impaired, including two—degradation of fish and wildlife populations and loss of fish and wildlife habitat—that were attributable to hydroelectric project operations. The beneficial use indicators for the Oswego River/Harbor Area of Concern have been resolved, and the Area of Concern has been delisted. As described in the 2006 Stage 3 Delisting document prepared by NYSDEC in consultation with the Oswego River Remedial Advisory Committee, in addition to other water quality and monitoring programs and studies, the FERC licenses and settlement for the Oswego River Projects have successfully restored river flow below Varick dam to address fish habitat and spawning conditions and are a key component of the delisting.

- NYSDEC granted the Water Quality Certification (WQC) for the Oswego River Project on October 4, 2004. The WQC is attached as Appendix A of FERC’s Order on Offer of Settlement and Issuing New License here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10320556>. The issued WQC did not include any on-going water quality monitoring programs or recommendations. The WQC does include specific conditions related to flows (base flows, reservoir fluctuations, bypass flows, and flow monitoring) and construction requirements as applicable.

### **III.B.2 Water Quality: Fulton Development Zone 2**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
B	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.</li> <li>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.</li> <li>• 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.</li> </ul>

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- The portion of the Oswego River from Lock 6 in Oswego to 0.6 miles upstream of Lock 2 in Fulton is listed as impaired on the 2016 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy for PCB contaminated sediments. Listing is here: <http://www.dec.ny.gov/chemical/31290.html>. The cause of this impairment is not related to the Oswego River Project. This is discussed in further detail in Zone 1.
- NYSDEC granted the Water Quality Certification (WQC) for the Oswego River Project on October 4, 2004. The WQC is attached as Appendix A of FERC’s Order on Offer of Settlement and Issuing New License here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10320556>. The issued WQC did not include any on-going water quality monitoring programs or recommendations. The WQC does include specific conditions related to flows (base flows, reservoir fluctuations, bypass flows, and flow monitoring) and construction requirements as applicable.

### **III.B.3 Water Quality: Fulton Development Zone 3**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
B	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.</li> <li>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.</li> <li>• 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.</li> </ul>

- The portion of the Oswego River from Lock 6 in Oswego to 0.6 miles upstream of Lock 2 in Fulton is listed as impaired on the 2016 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy for PCB contaminated sediments. Listing is here: <http://www.dec.ny.gov/chemical/31290.html>. The cause of this impairment is not related to the Oswego River Project. This is discussed in further detail in Zone 1.
- NYSDEC granted the Water Quality Certification (WQC) for the Oswego River Project on October 4, 2004. The WQC is attached as Appendix A of FERC’s Order on Offer of Settlement and Issuing New License here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10320556>. The issued WQC did not include any on-going water quality monitoring programs or recommendations. The WQC does include specific conditions related to flows (base flows, reservoir fluctuations, bypass flows, and flow monitoring) and construction requirements as applicable.

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### Information Required to Support Upstream Fish Passage Standards

#### III.C.1 Upstream Fish Passage: Fulton Development Zone 1

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
C	1	<u>Not Applicable / De Minimis Effect:</u> <ul style="list-style-type: none"><li>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.</li><li>• Document available fish distribution data and the lack of migratory fish species in the vicinity.</li></ul> If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.

- Zone 1 of the Fulton Development is the reservoir therefore there is no barrier to upstream fish passage.
- The fishery in the vicinity of the Fulton Development is a diverse mix of warm-coolwater and coldwater species, including migratory and resident fish populations. A viable sport fishery also exists in the area including largemouth bass, white perch, and walleye. Other sport and pan fish include channel catfish, northern pike, yellow perch, bluegill, and black and white crappie.

#### III.C.2 Upstream Fish Passage: Fulton Development Zone 2

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
C	2	<u>Agency Recommendation:</u> <ul style="list-style-type: none"><li>• 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).</li><li>• 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.</li><li>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.</li></ul>

- Pursuant to Article 407 of the license, the Licensee installs an upstream eel conveyance system seasonally from June 15 through September 15 annually. This provision was incorporated into the Offer of Settlement signed by the Licensee, Adirondack Mountain Club, Izaak Walton League, New York Rivers United, NYSDEC, New York State Conservation Council, Trout Unlimited, The Department of the Interior, USFWS, and the National Park Service. The Order on Offer of Settlement and Issuing New License is here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10320556>.
- Upstream eel passage was recommended by USFWS and aligned with the goal of re-establishment of eels to all suitable habitat in its historic range in the Oswego River by

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2010. This is discussed further in the Final Environmental Assessment here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8314774>.

- No monitoring or effectiveness determinations were required by the agencies.

### **III.C.3 Upstream Fish Passage: Fulton Development Zone 3**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
C	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> <li>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.</li> <li>• Document available fish distribution data and the lack of migratory fish species in the vicinity.</li> </ul> <p>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.</p>

- Zone 3 of the Fulton Development is the tailrace area.
- The fishery in the vicinity of the Fulton Development is a diverse mix of warm-coolwater and coldwater species, including migratory and resident fish populations. A viable sport fishery also exists in the area including largemouth bass, white perch, and walleye. Other sport and pan fish include channel catfish, northern pike, yellow perch, bluegill, and black and white crappie.

### **Information Required to Support Downstream Fish Passage Standards**

#### **III.D.1 Downstream Fish Passage: Fulton Development Zone 1**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
D	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> <li>• 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).</li> <li>• 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.</li> <li>• Document available fish distribution data and the lack of migratory fish species in the vicinity.</li> <li>• If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.</li> </ul>

- Zone 1 is the reservoir of the Fulton Development. The fishery in the vicinity of the Fulton Development is a diverse mix of warm-coolwater and coldwater species, including migratory and resident fish populations. A viable sport fishery also exists in the area

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including largemouth bass, white perch, and walleye. Other sport and pan fish include channel catfish, northern pike, yellow perch, bluegill, and black and white crappie.

- Article 407 of the license addresses fish protection, passage, and movement. The article implements fish-protection, passage and movement measures agreed upon in the Offer of Settlement. Downstream protection measures applicable to the Fulton reservoir, includes the installation of seasonal overlays in the form of 1” clear-spaced trashracks. These overlays are installed seasonally from May 1 or when flows permit safe installation (whichever is later) through November 30 or when the temperature of the river decreases to 7°C or less. Additional requirements of Article 407 are discussed in Zone 2 and Zone 3.

### **III.D.2 Downstream Fish Passage: Fulton Development Zone 2**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
D	2	<u>Agency Recommendation:</u> <ul style="list-style-type: none"> <li>• 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).</li> <li>• 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.</li> <li>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.</li> </ul>

- Article 407 of the FERC license requires the Licensee to implement the fish-protection, passage, and movement measures. At the Fulton Development, the 75 cfs fish friendly release is year-round through the existing sluice gate adjacent to the Fulton powerhouse. These fish-protection, passage, and movement measures were agreed upon in the Offer of Settlement.
- The 75 cfs fish friendly release through the existing sluice gate adjacent to the Fulton powerhouse is based upon habitat-based IFIM studies conducted in 1993. The results of this study are discussed in further detail in the Final Environmental Assessment here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8314774>.
- There are no provisions for fish passage monitoring or effectiveness testing.

### **III.D.3 Downstream Fish Passage: Fulton Development Zone 3**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
D	2	<u>Agency Recommendation:</u> <ul style="list-style-type: none"> <li>• 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).</li> <li>• Explain the scientific or technical basis for the agency recommendation,</li> </ul>

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<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
		<p>including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.</p> <ul style="list-style-type: none"> <li>Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.</li> </ul>

- Article 407 of the FERC license requires the Licensee to implement the fish-protection, passage, and movement measures. Seasonal overlays in the form of 1” clear-spaced trash racks are required to be placed seasonally from May 1 or when flows permit safe installation (whichever is later) through November 30 or when the temperature of the river decreases to 7°C or less (whichever is sooner). These fish-protection, passage, and movement measures were agreed upon in the Offer of Settlement.
- The need for seasonal overlays in the form of 1” clear-spaced trash racks were determined through a fish entrainment and mortality study conducted in 1994 and 1995. Entrainment abundance sampling was conducted at the Minetto development and data was used to extrapolate entrainment totals at the Fulton and Varick developments. It was determined approximately 644 fish annually would be excluded from entrainment with the installation of 1” clear-spaced trash racks.
- There are no provisions for fish passage monitoring or effectiveness testing.

### Information Required to Support Shoreline and Watershed Protection Standards

#### III.E.1 Shoreline and Watershed Protection: Fulton Development Zone 1

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
E	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> <li>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).</li> <li>Document that there have been no Shoreline Management Plans or similar protection requirements for the facility.</li> </ul>

- The developments of the Oswego River Project occur at lock and dam facilities along the Oswego River portion of the New York Barge Canal system. The shoreline of the reservoir is small and heavily urbanized. The Fulton Development is located entirely within the city limits of Fulton, New York. Vegetation near the Fulton development is limited to narrow bands of land along the shoreline of the river and consists primarily of Staghorn sumac, tree of heaven, and other shrubby species.
- No Shoreline Management Plan or similar protection requirements exist for the Fulton Development.

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### III.E.2 Shoreline and Watershed Protection: Fulton Development Zone 2

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
E	1	<u>Not Applicable / De Minimis Effect:</u> <ul style="list-style-type: none"><li>• 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).</li><li>• Document that there have been no Shoreline Management Plans or similar protection requirements for the facility.</li></ul>

- The developments of the Oswego River Project occur at lock and dam facilities along the Oswego River portion of the New York Barge Canal system. The shoreline of the Fulton Development is small and heavily urbanized. The Fulton Development is located entirely within the city limits of Fulton, New York. Vegetation near the Fulton development is limited to narrow bands of land along the shoreline of the river and consists primarily of Staghorn sumac, tree of heaven, and other shrubby species.
- No Shoreline Management Plan or similar protection requirements exist for the Fulton Development.

### III.E.3 Shoreline and Watershed Protection: Fulton Development Zone 3

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
E	1	<u>Not Applicable / De Minimis Effect:</u> <ul style="list-style-type: none"><li>• 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).</li><li>• Document that there have been no Shoreline Management Plans or similar protection requirements for the facility.</li></ul>

- The developments of the Oswego River Project occur at lock and dam facilities along the Oswego River portion of the New York Barge Canal system. The shoreline of the Fulton Development is small and heavily urbanized. The Fulton Development is located entirely within the city limits of Fulton, New York. Vegetation near the Fulton development is limited to narrow bands of land along the shoreline of the river and consists primarily of Staghorn sumac, tree of heaven, and other shrubby species.
- No Shoreline Management Plan or similar protection requirements exist for the Fulton Development.

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### Information Required to Support Threatened and Endangered Species Standards

#### III.F.1 Threatened and Endangered Species: Fulton Development Zone 1

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
F	2	<p><u>Recovery Planning and Action:</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> </ul>

- The Licensee consulted with the USFWS and NYSDEC regarding potential rare, threatened, and endangered (RTE) species within the Project (consultation documentation in Appendix D). USFWS identified the following species as potentially occurring within the Project: Indiana Bat (federally endangered), Northern Long-eared Bat (federally threatened), and the Bog Turtle (federally threatened). NYSDEC did not identify any rare, threatened, or endangered species within the Project area. No critical habitats were identified within the Project area.
- Recovery actions identified in USFWS’s Indiana Bat Draft Recovery Plan include hibernacula-related recovery actions and summer habitat management. Operations of the Oswego Falls Project at NYSCC’s dam are consistent with this draft recovery plan, as minimal vegetation removal and land management is associated with this project. The USFWS has not developed a recovery plan for the northern long-eared bat.
- According to the 2001 bog turtle recovery plan, the extant population in Oswego County represents the northern range of this species. Bog turtles inhabit a variety of wetland types but generally prefer small, open-canopy, herbaceous sedge meadows and fens bordered by more thickly vegetated and wooded areas, and their primary habitat includes seepage or spring-fed emergent wetlands associated with streams, often at or near the headwaters of streams or small tributaries. Because the Fulton Development is located in relatively highly developed, open-river areas, bog turtles are not expected to be found in the immediate vicinity of the project. As described in the recovery plan, conservation efforts focus on habitat protection, especially arresting succession of open wetlands to wooded swamp and control of invasive plants. Operations of the Oswego River Project according to the conditions of the 2004 Offer of Settlement is consistent with this recovery plan, as the modified run-of-river operating mode improves habitat—including wetland—conditions within the Project area.
- There are no specific requirements for endangered species protection in the FERC license or WQC for the Oswego River Project.

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### III.F.2 Threatened and Endangered Species: Fulton Development Zone 2

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
F	2	<u>Recovery Planning and Action:</u> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> </ul>

- The Licensee consulted with the USFWS and NYSDEC regarding potential rare, threatened, and endangered (RTE) species within the Project (consultation documentation in Appendix D). USFWS identified the following species as potentially occurring within the Project: Indiana Bat (federally endangered), Northern Long-eared Bat (federally threatened), and the Bog Turtle (federally threatened). NYSDEC did not identify any rare, threatened, or endangered species within the Project area. No critical habitats were identified within the Project area.
- See Zone 1 for further discussion of species recovery plans.
- There are no specific requirements for endangered species protection in the FERC license or WQC for the Oswego River Project.

### III.F.3 Threatened and Endangered Species: Fulton Development Zone 3

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
F	2	<u>Recovery Planning and Action:</u> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> </ul>

- The Licensee consulted with the USFWS and NYSDEC regarding potential rare, threatened, and endangered (RTE) species within the Project (consultation documentation in Appendix D). USFWS identified the following species as potentially occurring within the Project: Indiana Bat (federally endangered), Northern Long-eared Bat (federally threatened), and the Bog Turtle (federally threatened). NYSDEC did not identify any rare, threatened, or endangered species within the Project area. No critical habitats were identified within the Project area.

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- See Zone 1 for further discussion of species recovery plans.
- There are no specific requirements for endangered species protection in the FERC license or WQC for the Oswego River Project.

### Information Required to Support Cultural and Historic Resources Standards

#### III.G.1 Cultural and Historic Resources: Fulton Development Zone 1

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
G	2	<u>Approved Plan:</u> <ul style="list-style-type: none"> <li>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.</li> <li>• Document that the facility is in compliance with all such plans.</li> </ul>

- Pursuant to Article 410 of the license, the Licensee is required to implement its Programmatic Agreement with the State of New York executed on July 19, 1996, which includes implementation of its Cultural Resources Management Plan (CRMP). The CRMP was filed with FERC on March 8, 2006 and approved by FERC on January 26, 2007. Although there are no historical resources at the Project; the CRMP addresses the potential for undiscovered historic or archaeological resources during ground disturbing activities. The CRMP requires annual reporting to FERC.
- The last annual report was filed with FERC on January 27, 2017 and documented only minor ground-disturbing activities occurred in the prior year but were exempted from consultation in the “Compendium of Compatible Operations and Maintenance Activities (Categorical Exemptions for Historic Hydro Facilities).”

#### III.G.2 Cultural and Historic Resources Standards: Fulton Development Zone 2

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
G	2	<u>Approved Plan:</u> <ul style="list-style-type: none"> <li>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.</li> <li>• Document that the facility is in compliance with all such plans.</li> </ul>

- Pursuant to Article 410 of the license, the Licensee is required to implement its Programmatic Agreement with the State of New York executed on July 19, 1996, which includes implementation of its Cultural Resources Management Plan (CRMP). The CRMP was filed with FERC on March 8, 2006 and approved by FERC on January 26, 2007. Although there are no historical resources at the Project; the CRMP addresses the potential for undiscovered historic or archaeological resources during ground disturbing activities. The CRMP requires annual reporting to FERC.

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- The last annual report was filed with FERC on January 27, 2017 and documented only minor ground-disturbing activities occurred in the prior year but were exempted from consultation in the “Compendium of Compatible Operations and Maintenance Activities (Categorical Exemptions for Historic Hydro Facilities).”

### **III.G.3 Cultural and Historic Resources Standards: Fulton Development Zone 3**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
G	2	<u>Approved Plan:</u> <ul style="list-style-type: none"><li>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.</li><li>• Document that the facility is in compliance with all such plans.</li></ul>

- Pursuant to Article 410 of the license, the Licensee is required to implement its Programmatic Agreement with the State of New York executed on July 19, 1996, which includes implementation of its Cultural Resources Management Plan (CRMP). The CRMP was filed with FERC on March 8, 2006 and approved by FERC on January 26, 2007. Although there are no historical resources at the Project; the CRMP addresses the potential for undiscovered historic or archaeological resources during ground disturbing activities. The CRMP requires annual reporting to FERC.
- The last annual report was filed with FERC on January 27, 2017 and documented only minor ground-disturbing activities occurred in the prior year but were exempted from consultation in the “Compendium of Compatible Operations and Maintenance Activities (Categorical Exemptions for Historic Hydro Facilities).”

### **Information Required to Support Recreational Resources Standards**

### **III.H.1 Recreational Resources Standards: Fulton Development Zone 1**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
H	2	<u>Agency Recommendation:</u> <ul style="list-style-type: none"><li>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.</li><li>• Document that the facility is in compliance with all such recommendations and plans.</li></ul>

- Pursuant to FERC License Article 409 of the Oswego River Project, the licensee filed the Final Revised Recreation Management Plan on January 6, 2006, and FERC issued an order approving the plan on August 8, 2006. The Plan was developed in consultation with NYSDEC, USFWS, and NPS. The Final Revised Recreation Management Plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=10921464>. FERC’s order approving the plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=11105867>.
- The Oswego River canal system receives intensive recreational boating use, and the locks and

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dams along the river are popular spots for shoreline fishing. NYSCC operates the Oswego River lock system seven days a week from 7 a.m. to 10 p.m. during peak navigation system (late May to early October) and reduced hours during the remainder of the season, and the locks provide boating access around the dams. The primary recreational activity within the Oswego River Project’s boundaries is fishing at Erie facilities or the day-use-oriented recreational facilities managed by the state or local municipalities that are found along the stretch of the Oswego River spanned by the Oswego River Project.

- There is existing fishing access to the reservoir and bypass reach area. Fishing access to the Fulton reservoir and bypass reach area is provided by the City of Fulton’s Towpath Trail, which includes the canal side park and a small marina adjacent to the upstream end of Lock 3.
- The facility is in compliance with License Article 409. The most recent FERC Environmental Inspection Report, issued on September 1, 2015, stated the Licensee was in compliance with Article 409.

### **III.H.1 Recreational Resources Standards: Fulton Development Zone 2**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
H	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.</li> <li>• Document that the facility is in compliance with all such recommendations and plans.</li> </ul>

- Pursuant to FERC License Article 409 of the Oswego River Project, the licensee filed the Final Revised Recreation Management Plan on January 6, 2006, and FERC issued an order approving the plan on August 8, 2006. The Plan was developed in consultation with NYSDEC, USFWS, and NPS. The Final Revised Recreation Management Plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=10921464>. FERC’s order approving the plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=11105867>.
- The Oswego River canal system receives intensive recreational boating use, and the locks and dams along the river are popular spots for shoreline fishing. NYSCC operates the Oswego River lock system seven days a week from 7 a.m. to 10 p.m. during peak navigation system (late May to early October) and reduced hours during the remainder of the season, and the locks provide boating access around the dams. The primary recreational activity within the Oswego River Project’s boundaries is fishing at Erie facilities or the day-use-oriented recreational facilities managed by the state or local municipalities that are found along the stretch of the Oswego River spanned by the Oswego River Project.
- There is existing fishing access to the reservoir and bypass reach area. Fishing access to the Fulton reservoir and bypass reach area is provided by the City of Fulton’s Towpath Trail, which includes the canal side park and a small marina adjacent to the upstream end of Lock 3.

The facility is in compliance with License Article 409. The most recent FERC Environmental Inspection Report, issued on September 1, 2015, stated the Licensee was in compliance with Article 409.

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### III.H.3 Recreational Resources Standards: Fulton Development Zone 3

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
H	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.</li> <li>• Document that the facility is in compliance with all such recommendations and plans.</li> </ul>

- Pursuant to FERC License Article 409 of the Oswego River Project, the licensee filed the Final Revised Recreation Management Plan on January 6, 2006, and FERC issued an order approving the plan on August 8, 2006. The Plan was developed in consultation with NYSDEC, USFWS, and NPS. The Final Revised Recreation Management Plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=10921464>. FERC's order approving the plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=11105867>.
- The Oswego River canal system receives intensive recreational boating use, and the locks and dams along the river are popular spots for shoreline fishing. NYSCC operates the Oswego River lock system seven days a week from 7 a.m. to 10 p.m. during peak navigation system (late May to early October) and reduced hours during the remainder of the season, and the locks provide boating access around the dams. The primary recreational activity within the Oswego River Project's boundaries is fishing at Erie facilities or the day-use-oriented recreational facilities managed by the state or local municipalities that are found along the stretch of the Oswego River spanned by the Oswego River Project.
- There is existing fishing access to the reservoir and bypass reach area. The bypass reach fishing area is accessed via a set of stairs that descend from the downstream end of the NYSCC's Lock No. 3 to the small island located between the lock canal and the Fulton powerhouse tailrace.
- The facility is in compliance with License Article 409. The most recent FERC Environmental Inspection Report, issued on September 1, 2015, stated the Licensee was in compliance with Article 409.

### **MINETTO DEVELOPMENT**

#### **Information Required to Support Ecological Flows Standards.**

### III.A.1 Ecological Flows: Minetto Development Zone 1

A	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> <li>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.</li> <li>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.</li> <li>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.</li> <li>• For reservoir zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – <b>NOTE:</b> this is required information, but it</li> </ul>
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		will not be used to determine whether the Ecological Flows criterion has been satisfied. All reservoir zones can apply Criterion A-1 to pass this criterion.
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- Zone 1 is the Minetto Development reservoir.
- Pursuant to Articles 401 and 403 of the 2004 FERC license order, the Oswego River Project is operated in MROR mode as described in Section 3.1.2 of the 2004 Offer of Settlement with a 0.5 foot (year-round) measured in a downward direction from the permanent crest of the dam or the top of the flashboards when in place. 2004 Offer of Settlement is here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10073003>.

The Licensee monitors reservoir elevations at the Minetto Development with remote gaging equipment pursuant to the Stream Flow and Water Level Monitoring Plan pursuant to Article 401 and approved by FERC on June 12, 2015. FERC order approving Stream Flow and Water Level Monitoring Plan is here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13902546>. The equipment measures reservoir elevations to a 0.1 of an inch every minute and calculates an hourly average elevation which is reported to the Licensee's systems control center. The Licensee maintains records documenting compliance with flow and reservoir level conditions.

- The Minetto Development is not a conduit project; therefore this item is not applicable.
- The Minetto Development is subject to a variety of fish protection measures (Articles 401, 402, 403, 404, 405, 406, and 407). The fish protection measures and fish friendly flow releases (Article 407) provide riverine and migratory species with routes to freely move downstream.

### III.A.2 Ecological Flows: Minetto Development Zone 2

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
A	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> <li>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.</li> <li>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.</li> <li>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.</li> <li>• For reservoir zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – <b>NOTE:</b> this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All reservoir zones can apply Criterion A-1 to pass this criterion.</li> </ul>

- Zone 2 is the bypass reach of the Minetto Development.

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- Pursuant to Article 404 of the license, no base-flows are required at the Minetto Development due to the back watering effect created by the dam at Lock #6. The Order on Offer of Settlement and Issuing New License is here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10320556>.
- The Minetto Development is not a conduit project therefore this item is not applicable.

### **III.A.3 Ecological Flows: Minetto Development Zone 3**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
A	2	<p><u>Agency Recommendation (see Appendix A for definitions):</u></p> <ul style="list-style-type: none"> <li>• 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).</li> <li>• 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.</li> <li>• Explain how the recommendation relates to agency management goals and objectives for fish and wildlife.</li> <li>• 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).</li> </ul>

- Pursuant to Article 407 of the license, the Licensee is required to release a year-round 25 cfs fish passage release through an existing unused bay within the Minetto powerhouse. No additional base-flows are necessary at the Minetto Development due to the back watering effect created by the dam at Lock #6.
- The fish protection measures and fish friendly flows pursuant to Article 407 provide riverine and migratory species with routes to freely move downstream.

### **Information Required to Support Water Quality Standards**

#### **III.B.1 Water Quality: Minetto Development Zone 1**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
B	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.</li> <li>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.</li> <li>• 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.</li> </ul>

## Oswego River Project Recertification Application

- The portion of the Oswego River from Lock 6 in Oswego to 0.6 miles upstream of Lock 2 in Fulton is listed as impaired on the 2016 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy for PCB contaminated sediments. Listing is here: <http://www.dec.ny.gov/chemical/31290.html>. The cause of this impairment is not related to the Oswego River Project.

The Oswego River is subject to water quality programs beyond those required by the Clean Water Act and NYSDEC. The Oswego River Harbor (from the mouth at Lake Ontario to just below Dam No. 7 – Varick) was designated as one of the original 43 Areas of Concern under Annex 2 of the 1987 U.S.-Canada Great Lakes Water Quality Agreement. A Remedial Action Plan (RAP), administered by the U.S. EPA and implemented by NYSDEC was developed for the Oswego River/Harbor in 1987. Through stages 1 and 2 of the RAP, beneficial use impairments, as well as their causes and sources, and remedial actions were identified. The fourteen beneficial use impairment indicators were developed by the International Joint Commission in Annex 2. In the 1990 RAP Stage 1 document, four of these indicators were identified as impaired, including two—degradation of fish and wildlife populations and loss of fish and wildlife habitat—that were attributable to hydroelectric project operations. The beneficial use indicators for the Oswego River/Harbor Area of Concern have been resolved, and the Area of Concern has been delisted. As described in the 2006 Stage 3 Delisting document prepared by NYSDEC in consultation with the Oswego River Remedial Advisory Committee, in addition to other water quality and monitoring programs and studies, the FERC licenses and settlement for the Oswego River Projects have successfully restored river flow below Varick dam to address fish habitat and spawning conditions and are a key component of the delisting.

- NYSDEC granted the Water Quality Certification (WQC) for the Oswego River Project on October 4, 2004. The WQC is attached as Appendix A of FERC’s Order on Offer of Settlement and Issuing New License here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10320556>. The issued WQC did not include any on-going water quality monitoring programs or recommendations. The WQC does include specific conditions related to flows (base flows, reservoir fluctuations, bypass flows, and flow monitoring) and construction requirements as applicable.

### **III.B.2 Water Quality: Minetto Development Zone 2**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
B	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.</li> <li>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.</li> <li>• 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.</li> </ul>

## Oswego River Project Recertification Application

- The portion of the Oswego River from Lock 6 in Oswego to 0.6 miles upstream of Lock 2 in Fulton is listed as impaired on the 2016 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy for PCB contaminated sediments. Listing is here: <http://www.dec.ny.gov/chemical/31290.html>. The cause of this impairment is not related to the Oswego River Project. This is discussed in further detail in Zone 1.
- NYSDEC granted the Water Quality Certification (WQC) for the Oswego River Project on October 4, 2004. The WQC is attached as Appendix A of FERC’s Order on Offer of Settlement and Issuing New License here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10320556>. The issued WQC did not include any on-going water quality monitoring programs or recommendations. The WQC does include specific conditions related to flows (base flows, reservoir fluctuations, bypass flows, and flow monitoring) and construction requirements as applicable.

### **III.B.3 Water Quality: Minetto Development Zone 3**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
B	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.</li> <li>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.</li> <li>• 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.</li> </ul>

- The portion of the Oswego River from Lock 6 in Oswego to 0.6 miles upstream of Lock 2 in Fulton is listed as impaired on the 2016 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy for PCB contaminated sediments. Listing is here: <http://www.dec.ny.gov/chemical/31290.html>. The cause of this impairment is not related to the Oswego River Project. This is discussed in further detail in Zone 1.
- NYSDEC granted the Water Quality Certification (WQC) for the Oswego River Project on October 4, 2004. The WQC is attached as Appendix A of FERC’s Order on Offer of Settlement and Issuing New License here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10320556>. The issued WQC did not include any on-going water quality monitoring programs or recommendations. The WQC does include specific conditions related to flows (base flows, reservoir fluctuations, bypass flows, and flow monitoring) and construction requirements as applicable.

Information Required to Support Upstream Fish Passage Standards

**III.C.1 Upstream Fish Passage: Minetto Development Zone 1**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
C	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> <li>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.</li> <li>• Document available fish distribution data and the lack of migratory fish species in the vicinity.</li> </ul> <p>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.</p>

- Zone 1 of the Minetto Development is the reservoir therefore there is no barrier to upstream fish passage.
- The fishery in the vicinity of the Minetto Development is a diverse mix of warm-coolwater and coldwater species, including migratory and resident fish populations. A viable sport fishery also exists in the area including largemouth bass, white perch, and walleye. Other sport and pan fish include channel catfish, northern pike, yellow perch, bluegill, and black and white crappie.

**III.C.2 Upstream Fish Passage: Minetto Development Zone 2**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
C	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• 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).</li> <li>• 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.</li> <li>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.</li> </ul>

- Pursuant to Article 407 of the license, the Licensee installs an upstream eel conveyance system seasonally from June 15 through September 15 annually. This provision was incorporated into the Offer of Settlement signed by the Licensee, Adirondack Mountain Club, Izaak Walton League, New York Rivers United, NYSDEC, New York State Conservation Council, Trout Unlimited, the Department of the Interior, USFWS, and the National Park Service. The Order on Offer of Settlement and Issuing New License is here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10320556>.
- Upstream eel passage was recommended by USFWS and aligned with the goal of re-establishment of eels to all suitable habitat in its historic range in the Oswego River by

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2010. This is discussed further in the Final Environmental Assessment here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8314774>.

- No monitoring or effectiveness determinations were required by the agencies.

### **III.C.3 Upstream Fish Passage: Minetto Development Zone 3**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
C	1	<u>Not Applicable / De Minimis Effect:</u> <ul style="list-style-type: none"><li>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.</li><li>• Document available fish distribution data and the lack of migratory fish species in the vicinity.</li></ul> If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.

- Zone 3 of the Minetto Development is the tailrace area.
- The fishery in the vicinity of the Minetto Development is a diverse mix of warm-coolwater and coldwater species, including migratory and resident fish populations. A viable sport fishery also exists in the area including largemouth bass, white perch, and walleye. Other sport and pan fish include channel catfish, northern pike, yellow perch, bluegill, and black and white crappie.

### **Information Required to Support Downstream Fish Passage Standards**

#### **III.D.1 Downstream Fish Passage Standards: Minetto Development Zone 1**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
D	1	<u>Not Applicable / De Minimis Effect:</u> <ul style="list-style-type: none"><li>• 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).</li><li>• 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.</li><li>• Document available fish distribution data and the lack of migratory fish species in the vicinity.</li><li>• If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.</li></ul>

- Zone 1 is the reservoir of the Minetto Development. The fishery in the vicinity of the Minetto Development is a diverse mix of warm-coolwater and coldwater species, including migratory and resident fish populations. A viable sport fishery also exists in the area including largemouth bass, white perch, and walleye. Other sport and pan fish

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include channel catfish, northern pike, yellow perch, bluegill, and black and white crappie.

- Article 407 of the license addresses fish protection, passage, and movement. The article implements fish-protection, passage and movement measures agreed upon in the Offer of Settlement. Downstream protection measures applicable to the Minetto reservoir, includes the installation of seasonal overlays in the form of 1” clear-spaced trashracks. These overlays are installed seasonally from May 1 or when flows permit safe installation (whichever is later) through November 30 or when the temperature of the river decreases to 7°C or less. Additional requirements of Article 407 are discussed in Zone 2 and Zone 3.

### **III.D.2. Downstream Fish Passage Standards: Minetto Development Zone 2**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
D	2	<u>Agency Recommendation:</u> <ul style="list-style-type: none"> <li>• 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).</li> <li>• 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.</li> <li>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.</li> </ul>

- Article 407 of the FERC license requires the Licensee to implement the fish-protection, passage, and movement measures. At the Minetto Development, the 25 cfs fish friendly release is year-round through an existing unused bay within the Minetto powerhouse. These fish-protection, passage, and movement measures were agreed upon in the Offer of Settlement.
- The 25 cfs fish friendly release through an existing unused bay within the Minetto powerhouse is based upon habitat-based IFIM studies conducted in 1993. The results of this study are discussed in further detail in the Final Environmental Assessment here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8314774>.
- There are no provisions for fish passage monitoring or effectiveness testing.

### **III.D.3 Downstream Fish Passage Standards: Minetto Development Zone 3**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
D	2	<u>Agency Recommendation:</u> <ul style="list-style-type: none"> <li>• 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).</li> <li>• Explain the scientific or technical basis for the agency recommendation,</li> </ul>

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<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
		<p>including methods and data used. This is required regardless of whether the recommendation is part of a Settlement Agreement or not.</p> <ul style="list-style-type: none"> <li>Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.</li> </ul>

- Article 407 of the FERC license requires the Licensee to implement the fish-protection, passage, and movement measures. Seasonal overlays in the form of 1” clear-spaced trash racks are required to be placed seasonally from May 1 or when flows permit safe installation (whichever is later) through November 30 or when the temperature of the river decreases to 7°C or less (whichever is sooner). These fish-protection, passage, and movement measures were agreed upon in the Offer of Settlement.
- The need for seasonal overlays in the form of 1” clear-spaced trash racks were determined through a fish entrainment and mortality study conducted in 1994 and 1995. Entrainment abundance sampling was conducted at the Minetto development. It was determined approximately 10,792 fish annually would be excluded from entrainment with the installation of 1” clear-spaced trash racks. This study is discussed in further detail in the Final Environmental Assessment here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8314774>.
- There are no provisions for fish passage monitoring or effectiveness testing.

### Information Required to Support Shoreline and Watershed Protection Standards

#### III.E.1 Shoreline and Watershed Protection: Minetto Development Zone 1

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
E	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> <li>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).</li> <li>Document that there have been no Shoreline Management Plans or similar protection requirements for the facility.</li> </ul>

- The developments of the Oswego River Project occur at lock and dam facilities along the Oswego River portion of the New York Barge Canal system. The lands surrounding the Minetto Development are primarily rural. Natural vegetation in the area is fragmented cover consisting of hardwood riparian areas, coniferous stands, agricultural croplands, and landscaped lawns.
- No Shoreline Management Plan or similar protection requirements exist for the Minetto Development.

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### III.E.1 Shoreline and Watershed Protection: Minetto Development Zone 2

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
E	1	<u>Not Applicable / De Minimis Effect:</u> <ul style="list-style-type: none"><li>• 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).</li><li>• Document that there have been no Shoreline Management Plans or similar protection requirements for the facility.</li></ul>

- The developments of the Oswego River Project occur at lock and dam facilities along the Oswego River portion of the New York Barge Canal system. The developments of the Oswego River Project occur at lock and dam facilities along the Oswego River portion of the New York Barge Canal system. The lands surrounding the Minetto Development are primarily rural. Natural vegetation in the area is fragmented cover consisting of hardwood riparian areas, coniferous stands, agricultural croplands, and landscaped lawns.
- No Shoreline Management Plan or similar protection requirements exist for the Minetto Development.

### III.E.3. Shoreline and Watershed Protection: Minetto Development Zone 3

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
E	1	<u>Not Applicable / De Minimis Effect:</u> <ul style="list-style-type: none"><li>• 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).</li><li>• Document that there have been no Shoreline Management Plans or similar protection requirements for the facility.</li></ul>

- The developments of the Oswego River Project occur at lock and dam facilities along the Oswego River portion of the New York Barge Canal system. The developments of the Oswego River Project occur at lock and dam facilities along the Oswego River portion of the New York Barge Canal system. The lands surrounding the Minetto Development are primarily rural. Natural vegetation in the area is fragmented cover consisting of hardwood riparian areas, coniferous stands, agricultural croplands, and landscaped lawns.
- No Shoreline Management Plan or similar protection requirements exist for the Minetto Development.

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### Information Required to Support Threatened and Endangered Species Standards

#### III.F.1 Threatened and Endangered Species: Minetto Development Zone 1

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
F	2	<p><u>Recovery Planning and Action:</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> </ul>

- The Licensee consulted with the USFWS and NYSDEC regarding potential rare, threatened, and endangered (RTE) species within the Project (consultation documentation in Appendix D). USFWS identified the following species as potentially occurring within the Project: Indiana Bat (federally endangered), Northern Long-eared Bat (federally threatened), and the Bog Turtle (federally threatened). Additionally, NYSDEC identified Indiana Bat as potentially occurring within the Minetto development. No critical habitats were identified within the Project area.
- Recovery actions identified in USFWS’s Indiana Bat Draft Recovery Plan include hibernacula-related recovery actions and summer habitat management. Operations of the Oswego Falls Project at NYSCC’s dam are consistent with this draft recovery plan, as minimal vegetation removal and land management is associated with this project. The USFWS has not developed a recovery plan for the northern long-eared bat.
- According to the 2001 bog turtle recovery plan, the extant population in Oswego County represents the northern range of this species. Bog turtles inhabit a variety of wetland types but generally prefer small, open-canopy, herbaceous sedge meadows and fens bordered by more thickly vegetated and wooded areas, and their primary habitat includes seepage or spring-fed emergent wetlands associated with streams, often at or near the headwaters of streams or small tributaries. As described in the recovery plan, conservation efforts focus on habitat protection, especially arresting succession of open wetlands to wooded swamp and control of invasive plants. Operations of the Oswego River Project according to the conditions of the 2004 Offer of Settlement is consistent with this recovery plan, as the modified run-of-river operating mode improves habitat—including wetland—conditions within the Project area.
- There are no specific requirements for endangered species protection in the FERC license or WQC for the Oswego River Project.

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### III.F.2 Threatened and Endangered Species: Minetto Development Zone 2

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
F	2	<p><u>Recovery Planning and Action:</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> </ul>

- The Licensee consulted with the USFWS and NYSDEC regarding potential rare, threatened, and endangered (RTE) species within the Project (consultation documentation in Appendix D). USFWS identified the following species as potentially occurring within the Project: Indiana Bat (federally endangered), Northern Long-eared Bat (federally threatened), and the Bog Turtle (federally threatened). Additionally, NYSDEC identified Indiana Bat as potentially occurring within the Minetto development. No critical habitats were identified within the Project area.
- Recovery plans are discussed in Zone 1.
- There are no specific requirements for endangered species protection in the FERC license or WQC for the Oswego River Project.

### III.F.3 Threatened and Endangered Species: Minetto Development Zone 3

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
F	2	<p><u>Recovery Planning and Action:</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> </ul>

- The Licensee consulted with the USFWS and NYSDEC regarding potential rare, threatened, and endangered (RTE) species within the Project (consultation documentation in Appendix D). USFWS identified the following species as potentially occurring within the Project: Indiana Bat (federally endangered), Northern Long-eared Bat (federally

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threatened), and the Bog Turtle (federally threatened). Additionally, NYSDEC identified Indiana Bat as potentially occurring within the Minetto development. No critical habitats were identified within the Project area.

- Recovery plans are discussed in Zone 1.
- There are no specific requirements for endangered species protection in the FERC license or WQC for the Oswego River Project.

### Information Required to Support Cultural and Historic Resources Standards

#### **III.G.1 Cultural and Historic Resources Standards: Minetto Zone 1**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
G	2	<p><u>Approved Plan:</u></p> <ul style="list-style-type: none"> <li>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.</li> <li>• Document that the facility is in compliance with all such plans.</li> </ul>

- Pursuant to Article 410 of the license, the Licensee is required to implement its Programmatic Agreement with the State of New York executed on July 19, 1996, which includes implementation of its Cultural Resources Management Plan (CRMP). The CRMP was filed with FERC on March 8, 2006 and approved by FERC on January 26, 2007. Although there are no historical resources at the Project; the CRMP addresses the potential for undiscovered historic or archaeological resources during ground disturbing activities. The CRMP requires annual reporting to FERC.
- The last annual report was filed with FERC on January 27, 2017 and documented only minor ground-disturbing activities occurred in the prior year but were exempted from consultation in the “Compendium of Compatible Operations and Maintenance Activities (Categorical Exemptions for Historic Hydro Facilities).”

#### **III.G.2 Cultural and Historic Resources Standards: Minetto Zone 2**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
G	2	<p><u>Approved Plan:</u></p> <ul style="list-style-type: none"> <li>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.</li> <li>• Document that the facility is in compliance with all such plans.</li> </ul>

- Pursuant to Article 410 of the license, the Licensee is required to implement its Programmatic Agreement with the State of New York executed on July 19, 1996, which includes implementation of its Cultural Resources Management Plan (CRMP). The CRMP was filed with FERC on March 8, 2006 and approved by FERC on January 26,

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2007. Although there are no historical resources at the Project; the CRMP addresses the potential for undiscovered historic or archaeological resources during ground disturbing activities. The CRMP requires annual reporting to FERC.

- The last annual report was filed with FERC on January 27, 2017 and documented only minor ground-disturbing activities occurred in the prior year but were exempted from consultation in the “Compendium of Compatible Operations and Maintenance Activities (Categorical Exemptions for Historic Hydro Facilities).”

### **III.G.3 Cultural and Historic Resources Standards: Minetto Zone 3**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
G	2	<u>Approved Plan:</u> <ul style="list-style-type: none"> <li>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.</li> <li>• Document that the facility is in compliance with all such plans.</li> </ul>

- Pursuant to Article 410 of the license, the Licensee is required to implement its Programmatic Agreement with the State of New York executed on July 19, 1996, which includes implementation of its Cultural Resources Management Plan (CRMP). The CRMP was filed with FERC on March 8, 2006 and approved by FERC on January 26, 2007. Although there are no historical resources at the Project; the CRMP addresses the potential for undiscovered historic or archaeological resources during ground disturbing activities. The CRMP requires annual reporting to FERC.
- The last annual report was filed with FERC on January 27, 2017 and documented only minor ground-disturbing activities occurred in the prior year but were exempted from consultation in the “Compendium of Compatible Operations and Maintenance Activities (Categorical Exemptions for Historic Hydro Facilities).”

### **Information Required to Support Recreational Resources Standards**

#### **III.H.1 Recreational Resources Standards: Minetto Development Zone 1**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
H	2	<u>Agency Recommendation:</u> <ul style="list-style-type: none"> <li>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.</li> <li>• Document that the facility is in compliance with all such recommendations and plans.</li> </ul>

- Pursuant to FERC License Article 409 of the Oswego River Project, the licensee filed the Final Revised Recreation Management Plan on January 6, 2006, and FERC issued an order approving the plan on August 8, 2006. The Plan was developed in consultation with NYSDEC, USFWS, and NPS. The Final Revised Recreation Management Plan is

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here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=10921464>.  
FERC's order approving the plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=11105867>.

- The Oswego River canal system receives intensive recreational boating use, and the locks and dams along the river are popular spots for shoreline fishing. NYSCC operates the Oswego River lock system seven days a week from 7 a.m. to 10 p.m. during peak navigation system (late May to early October) and reduced hours during the remainder of the season, and the locks provide boating access around the dams. The primary recreational activity within the Oswego River Project's boundaries is fishing at Erie facilities or the day-use-oriented recreational facilities managed by the state or local municipalities that are found along the stretch of the Oswego River spanned by the Oswego River Project.
- There is existing fishing access to the reservoir and bypass reach area. The Minetto Park boat launch facility is utilized for fishing access as well as an upstream canoe take-out point. A cone portage trail, including signage is along the western river edge and State Route 48 highway and is maintained by the Licensee.
- The facility is in compliance with License Article 409. The most recent FERC Environmental Inspection Report, issued on September 1, 2015, stated the Licensee was in compliance with Article 409.

### **III.H.2 Recreational Resources Standards: Minetto Development Zone 2**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
H	2	<u>Agency Recommendation:</u> <ul style="list-style-type: none"><li>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.</li><li>• Document that the facility is in compliance with all such recommendations and plans.</li></ul>

- Pursuant to FERC License Article 409 of the Oswego River Project, the licensee filed the Final Revised Recreation Management Plan on January 6, 2006, and FERC issued an order approving the plan on August 8, 2006. The Plan was developed in consultation with NYSDEC, USFWS, and NPS. The Final Revised Recreation Management Plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=10921464>. FERC's order approving the plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=11105867>.
- The Oswego River canal system receives intensive recreational boating use, and the locks and dams along the river are popular spots for shoreline fishing. NYSCC operates the Oswego River lock system seven days a week from 7 a.m. to 10 p.m. during peak navigation system (late May to early October) and reduced hours during the remainder of

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the season, and the locks provide boating access around the dams. The primary recreational activity within the Oswego River Project’s boundaries is fishing at Erie facilities or the day-use-oriented recreational facilities managed by the state or local municipalities that are found along the stretch of the Oswego River spanned by the Oswego River Project.

- There is existing fishing access to the reservoir and bypass reach area. The Minetto Park boat launch facility is utilized for fishing access as well as an upstream canoe take-out point. A cone portage trail, including signage is along the western river edge and State Route 48 highway and is maintained by the Licensee.
- The facility is in compliance with License Article 409. The most recent FERC Environmental Inspection Report, issued on September 1, 2015, stated the Licensee was in compliance with Article 409.

### **III.H.3 Recreational Resources Standards: Minetto Development Zone 3**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
H	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.</li> <li>• Document that the facility is in compliance with all such recommendations and plans.</li> </ul>

- Pursuant to FERC License Article 409 of the Oswego River Project, the licensee filed the Final Revised Recreation Management Plan on January 6, 2006, and FERC issued an order approving the plan on August 8, 2006. The Plan was developed in consultation with NYSDEC, USFWS, and NPS. The Final Revised Recreation Management Plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=10921464>. FERC’s order approving the plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=11105867>.
- The Oswego River canal system receives intensive recreational boating use, and the locks and dams along the river are popular spots for shoreline fishing. NYSCC operates the Oswego River lock system seven days a week from 7 a.m. to 10 p.m. during peak navigation system (late May to early October) and reduced hours during the remainder of the season, and the locks provide boating access around the dams. The primary recreational activity within the Oswego River Project’s boundaries is fishing at Erie facilities or the day-use-oriented recreational facilities managed by the state or local municipalities that are found along the stretch of the Oswego River spanned by the Oswego River Project.
- There is existing fishing access to the reservoir and bypass reach area. The Minetto Park boat launch facility is utilized for fishing access as well as an upstream canoe take-out point. A cone portage trail, including signage is along the western river edge and State

## Oswego River Project Recertification Application

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Route 48 highway and is maintained by the Licensee.

- The facility is in compliance with License Article 409. The most recent FERC Environmental Inspection Report, issued on September 1, 2015, stated the Licensee was in compliance with Article 409.

### **VARICK DEVELOPMENT**

#### **Information Required to Support Ecological Flows Standards.**

#### **III.A.1 Ecological Flows: Varick Development Zone 1**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
A	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> <li>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.</li> <li>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.</li> <li>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.</li> <li>• For reservoir zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – <b>NOTE:</b> this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All reservoir zones can apply Criterion A-1 to pass this criterion.</li> </ul>

- Zone 1 is the Varick Development reservoir.
- Pursuant to Articles 401 and 403 of the 2004 FERC license order, the Oswego River Project is operated in MROR mode as described in Section 3.1.2 of the 2004 Offer of Settlement with a 1.0 foot (year-round) measured in a downward direction from the permanent crest of the dam or the top of the flashboards when in place. 2004 Offer of Settlement is here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10073003>.

The Licensee monitors reservoir elevations at the Varick Development with remote gaging equipment pursuant to the Stream Flow and Water Level Monitoring Plan pursuant to Article 401 and approved by FERC on June 12, 2015. FERC order approving Stream Flow and Water Level Monitoring Plan is here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13902546>. The equipment measures reservoir elevations to a 0.1 of an inch every minute and calculates an hourly average elevation which is reported to the Licensee's systems control center. The Licensee maintains records documenting compliance with flow and reservoir level conditions.

- The Varick Development is not a conduit project; therefore this item is not applicable.

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- The Varick Development is subject to a variety of fish protection measures (Articles 401, 402, 403, 404, 405, 406, and 407). The fish protection measures and fish friendly flow releases (Article 407) provide riverine and migratory species with routes to freely move downstream.

### III.A.2 Ecological Flows: Varick Development Zone 2

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
A	4	<p><u>Site-Specific Studies:</u></p> <ul style="list-style-type: none"> <li>• Describe the site-specific, habitat evaluation technique that was used to define the ecological flow regime and how the results satisfy the goal of this criterion.</li> <li>• Describe the resultant flow regime in terms of base flow, seasonal variability, high-flow events, short-term rates of change, and year-to-year variability.</li> <li>• Describe the target fish and wildlife resources that were considered and how the resultant flow regime supports their habitat over their life cycles.</li> </ul>

- A viable sport fishery exists in the Oswego River. The bypass reach provides riffle habitat which is limited in the Oswego River. Riffle habitat is generally a primary production area for macroinvertebrates, minnows, and darters, which constitute much of the food base for other fish. An IFIM study was conducted to evaluate viable bypass flows. Flows were agreed upon under a 2004 Offer of Settlement and vary seasonally. Results of the IFIM study are discussed in the Notice of Final Environmental Assessment here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8314774>.
- Pursuant to Article 405 of the new license, the Licensee is required to release seasonal bypass flows as follows:
  - 800 cfs (782-818) or inflow, whichever is less, from the existing sluice gate adjacent to the State head gate all of the walleye spawning season
  - 400 cfs (389-410) or inflow, whichever is less, from the existing sluice gate adjacent to the State head gate from the end of the walleye spawning season through May 31<sup>st</sup>
  - 200 cfs (192-207) or inflow, whichever is less, from the existing sluice gate adjacent to the State head gate from June 1 through September 15
  - 400 cfs (389-410) or inflow, whichever is less, from the existing sluice gate adjacent to the State head gate from September 16 through the beginning of walleye spawning season

Order on Offer of Settlement and Issuing New License here:

<https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10320556>

Pursuant to Article 406 of the new license, the Licensee installed a low-level flow diversion structure along a portion of the western side of the bypassed reach near the tailrace of the Varick powerhouse. These modifications divert approximately 70% of the upper bypassed reach flow, during the 200 cfs bypass flow release period from June 1 through September 15, to the lower bypass reach. Prior to the installation of the low-level flow diversions, the Licensee was required to consult with the resource agencies. This documentation is here:

## Oswego River Project Recertification Application

<https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10615212>.

- A viable sport fishery exists in the Oswego River for small and largemouth bass, white perch, and walleye. Other sport and pan fish include channel catfish, northern pike, yellow perch, bluegill, and black and white crappie. NYSDEC also stocks a variety of salmon and trout providing an excellent spring and fall fishery below Varick dam to Lake Ontario. The flows established under Article 405 facilitate fish movement and are tailored specifically for the individual seasons.

### **III.A.3 Ecological Flows: Varick Development Zone 3**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
A	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> <li>• Confirm the location of the powerhouse relative to other dam/diversion structures to establish that there are no bypassed reaches at the facility.</li> <li>• If Run-of-River operation, provide details on how flows, water levels, and operation are monitored to ensure such an operational mode is maintained.</li> <li>• In a conduit project, identify the water source and discharge points for the conduit system within which the hydropower plant is located.</li> <li>• For reservoir zones only, explain how fish and wildlife habitat within the zone is evaluated and managed – <b>NOTE:</b> this is required information, but it will not be used to determine whether the Ecological Flows criterion has been satisfied. All reservoir zones can apply Criterion A-1 to pass this criterion.</li> </ul>

- Zone 3 is the tailrace of the Varick development.
- Pursuant to Article 404 of the license, no base flow is required via the powerhouse at the Varick Development as the flow is provided via the bypass flow. The Offer of Settlement requires a water-level monitoring plan, including gages and equipment to document compliance with project reservoir level fluctuations and minimum flow release requirements. The Order on Offer of Settlement and Issuing New License is here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10320556>.
- The Varick Development is not a conduit project, therefore this item is not applicable.
- Zone 3 is the tailrace of the Varick development, therefore this item is not applicable.

### **Information Required to Support Water Quality Standards**

#### **III.B.1 Water Quality: Varick Development Zone 1**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
B	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Provide a copy of the most recent Water Quality Certificate, including the</li> </ul>

## Oswego River Project Recertification Application

		<p>date of issuance.</p> <ul style="list-style-type: none"> <li>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.</li> <li>• 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.</li> </ul>
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- The Oswego River is subject to water quality programs beyond those required by the Clean Water Act and NYSDEC. The Oswego River Harbor (from the mouth at Lake Ontario to just below Dam No. 7 – Varick) was designated as one of the original 43 Areas of Concern under Annex 2 of the 1987 U.S.-Canada Great Lakes Water Quality Agreement. A Remedial Action Plan (RAP), administered by the U.S. EPA and implemented by NYSDEC was developed for the Oswego River/Harbor in 1987. Through stages 1 and 2 of the RAP, beneficial use impairments, as well as their causes and sources, and remedial actions were identified. The fourteen beneficial use impairment indicators were developed by the International Joint Commission in Annex 2. In the 1990 RAP Stage 1 document, four of these indicators were identified as impaired, including two—degradation of fish and wildlife populations and loss of fish and wildlife habitat—that were attributable to hydroelectric project operations. The beneficial use indicators for the Oswego River/Harbor Area of Concern have been resolved, and the Area of Concern has been delisted. As described in the 2006 Stage 3 Delisting document prepared by NYSDEC in consultation with the Oswego River Remedial Advisory Committee, in addition to other water quality and monitoring programs and studies, the FERC licenses and settlement for the Oswego River Projects have successfully restored river flow below Varick dam to address fish habitat and spawning conditions and are a key component of the delisting.
- NYSDEC granted the Water Quality Certification (WQC) for the Oswego River Project on October 4, 2004. The WQC is attached as Appendix A of FERC’s Order on Offer of Settlement and Issuing New License here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10320556>. The issued WQC did not include any on-going water quality monitoring programs or recommendations. The WQC does include specific conditions related to flows (base flows, reservoir fluctuations, bypass flows, and flow monitoring) and construction requirements as applicable.

### **III.B.2 Water Quality: Varick Development Zone 2**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
B	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.</li> <li>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.</li> <li>• Describe all compliance activities related to the water quality related agency</li> </ul>

## Oswego River Project Recertification Application

		recommendations for the facility, including on-going monitoring, and how those are integrated into facility operations.
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- NYSDEC granted the Water Quality Certification (WQC) for the Oswego River Project on October 4, 2004. The WQC is attached as Appendix A of FERC's Order on Offer of Settlement and Issuing New License here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10320556>. The issued WQC did not include any on-going water quality monitoring programs or recommendations. The WQC does include specific conditions related to flows (base flows, reservoir fluctuations, bypass flows, and flow monitoring) and construction requirements as applicable.

### **III.B.3 Water Quality: Varick Development Zone 3**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
B	2	<u>Agency Recommendation:</u> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Provide a copy of the most recent Water Quality Certificate, including the date of issuance.</li> <li>• Identify any other agency recommendations related to water quality and explain their scientific or technical basis.</li> <li>• 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.</li> </ul>

- NYSDEC granted the Water Quality Certification (WQC) for the Oswego River Project on October 4, 2004. The WQC is attached as Appendix A of FERC's Order on Offer of Settlement and Issuing New License here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10320556>. The issued WQC did not include any on-going water quality monitoring programs or recommendations. The WQC does include specific conditions related to flows (base flows, reservoir fluctuations, bypass flows, and flow monitoring) and construction requirements as applicable.

### **Information Required to Support Upstream Fish Passage Standards**

#### **III.C.1 Upstream Fish Passage: Varick Development Zone 1**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
C	1	<u>Not Applicable / De Minimis Effect:</u> <ul style="list-style-type: none"> <li>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.</li> <li>• Document available fish distribution data and the lack of migratory fish species in the vicinity.</li> </ul> If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.

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- Zone 1 of the Varick Development is the reservoir therefore there is no barrier to upstream fish passage.
- The fishery in the vicinity of the Varick Development is a diverse mix of warm-coolwater and coldwater species, including migratory and resident fish populations. A viable sport fishery also exists in the area including largemouth bass, white perch, and walleye. Other sport and pan fish include channel catfish, northern pike, yellow perch, bluegill, and black and white crappie.

### **III.C.2. Upstream Fish Passage: Varick Development Zone 2**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
C	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• 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).</li> <li>• 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.</li> <li>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.</li> </ul>

- Pursuant to Article 407 of the license, the Licensee installs an upstream eel conveyance system seasonally from June 15 through September 15 annually. This provision was incorporated into the Offer of Settlement signed by the Licensee, Adirondack Mountain Club, Izaak Walton League, New York Rivers United, NYSDEC, New York State Conservation Council, Trout Unlimited, The Department of the Interior, USFWS, and the National Park Service. The Order on Offer of Settlement and Issuing New License is here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=10320556>.
- Upstream eel passage was recommended by USFWS and aligned with the goal of re-establishment of eels to all suitable habitat in its historic range in the Oswego River by 2010. This is discussed further in the Final Environmental Assessment here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8314774>.
- No monitoring or effectiveness determinations were required by the agencies.

### **III.C.3 Upstream Fish Passage: Varick Development Zone 3**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
C	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> <li>• Explain why the facility does not impose a barrier to upstream fish passage in the designated zone.</li> <li>• Document available fish distribution data and the lack of migratory fish species in the vicinity.</li> </ul> <p>If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.</p>

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- Zone 3 of the Varick Development is the tailrace area.
- The fishery in the vicinity of the Varick Development is a diverse mix of warm-coolwater and coldwater species, including migratory and resident fish populations. A viable sport fishery also exists in the area including largemouth bass, white perch, and walleye. Other sport and pan fish include channel catfish, northern pike, yellow perch, bluegill, and black and white crappie.

### Information Required to Support Downstream Fish Passage Standards

#### III.D.1 Downstream Fish Passage Standards: Varick Development Zone 1

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
D	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> <li>• 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).</li> <li>• 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.</li> <li>• Document available fish distribution data and the lack of migratory fish species in the vicinity.</li> <li>• If migratory fish species have been extirpated from the area, explain why the facility is or was not the cause of this.</li> </ul>

- Zone 1 is the reservoir of the Varick Development. The fishery in the vicinity of the Varick Development is a diverse mix of warm-coolwater and coldwater species, including migratory and resident fish populations. A viable sport fishery also exists in the area including largemouth bass, white perch, and walleye. Other sport and pan fish include channel catfish, northern pike, yellow perch, bluegill, and black and white crappie.
- Article 407 of the license addresses fish protection, passage, and movement. The article implements fish-protection, passage and movement measures agreed upon in the Offer of Settlement. Downstream protection measures applicable to the Varick reservoir, includes the installation of seasonal overlays in the form of 1” clear-spaced trashracks at the “State Head Gate” structure adjacent to the dam. These overlays are installed seasonally from May 1 or when flows permit safe installation (whichever is later) through November 30 or when the temperature of the river decreases to 7°C or less. Additional requirements of Article 407 are discussed in Zone 2 and Zone 3.

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### III.D.2 Downstream Fish Passage Standards: Varick Development Zone 2

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
D	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• 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).</li> <li>• 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.</li> <li>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.</li> </ul>

- Article 407 of the FERC license requires the Licensee to implement the fish-protection, passage, and movement measures. At the Varick Development, the 200 cfs fish friendly release is year-round through a location adjacent to the installed trashrack overlays. These fish-protection, passage, and movement measures were agreed upon in the Offer of Settlement.
- The 200 cfs fish friendly release through a location adjacent to the installed trashrack overlays is based upon habitat-based IFIM studies conducted in 1993. The results of this study are discussed in further detail in the Final Environmental Assessment here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8314774>.
- There are no provisions for fish passage monitoring or effectiveness testing.

### III.D.3 Downstream Fish Passage Standards: Varick Development Zone 3

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
D	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• 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).</li> <li>• 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.</li> <li>• Describe any provisions for fish passage monitoring or effectiveness determinations that are part of the agency recommendation, and how these are being implemented.</li> </ul>

- Article 407 of the FERC license requires the Licensee to implement the fish-protection, passage, and movement measures. Seasonal overlays in the form of 1” clear-spaced trash racks are required to be placed seasonally from May 1 or when flows permit safe installation (whichever is later) through November 30 or when the temperature of the river decreases to 7°C or less (whichever is sooner). These fish-protection, passage, and movement measures were agreed upon in the Offer of Settlement.

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- The need for seasonal overlays in the form of 1” clear-spaced trash racks were determined through a fish entrainment and mortality study conducted in 1994 and 1995. Entrainment abundance sampling was conducted at the Minetto development and data was used to extrapolate entrainment totals at the Fulton and Varick developments. It was determined approximately 4,914 fish annually would be excluded from entrainment with the installation of 1” clear-spaced trash racks. This study is discussed in further detail in the Final Environmental Assessment here: <https://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=8314774>.
- There are no provisions for fish passage monitoring or effectiveness testing.

### Information Required to Support Shoreline and Watershed Protection Standards

#### III.E.1 Shoreline and Watershed Protection: Varick Development Zone 1

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
E	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> <li>• 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).</li> <li>• Document that there have been no Shoreline Management Plans or similar protection requirements for the facility.</li> </ul>

- The developments of the Oswego River Project occur at lock and dam facilities along the Oswego River portion of the New York Barge Canal system. The developments of the Oswego River Project occur at lock and dam facilities along the Oswego River portion of the New York Barge Canal system. The Varick Development is located within the urban portions of the city of Oswego. Natural vegetation in the area is fragmented cover consisting of hardwood riparian areas, coniferous stands, agricultural croplands, and landscaped lawns.
- No Shoreline Management Plan or similar protection requirements exist for the Varick Development.

#### III.E.2 Shoreline and Watershed Protection: Varick Development Zone 2

E	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> <li>• 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).</li> <li>• Document that there have been no Shoreline Management Plans or similar protection requirements for the facility.</li> </ul>
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- The developments of the Oswego River Project occur at lock and dam facilities along the Oswego River portion of the New York Barge Canal system. The developments of the Oswego River Project occur at lock and dam facilities along the Oswego River portion of the New York Barge Canal system. The Varick Development is located within the urban

## Oswego River Project Recertification Application

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portions of the city of Oswego. Natural vegetation in the area is fragmented cover consisting of hardwood riparian areas, coniferous stands, agricultural croplands, and landscaped lawns.

- No Shoreline Management Plan or similar protection requirements exist for the Varick Development.

### **III.E.3 Shoreline and Watershed Protection: Varick Development Zone 3**

E	1	<p><u>Not Applicable / De Minimis Effect:</u></p> <ul style="list-style-type: none"> <li>• 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).</li> <li>• Document that there have been no Shoreline Management Plans or similar protection requirements for the facility.</li> </ul>
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- The developments of the Oswego River Project occur at lock and dam facilities along the Oswego River portion of the New York Barge Canal system. The developments of the Oswego River Project occur at lock and dam facilities along the Oswego River portion of the New York Barge Canal system. The Varick Development is located within the urban portions of the city of Oswego. Natural vegetation in the area is fragmented cover consisting of hardwood riparian areas, coniferous stands, agricultural croplands, and landscaped lawns.
- No Shoreline Management Plan or similar protection requirements exist for the Varick Development.

### **Information Required to Support Threatened and Endangered Species Standards**

#### **III.F.1 Threatened and Endangered Species: Varick Development Zone 1**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
F	2	<p><u>Recovery Planning and Action:</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> </ul>

- The Licensee consulted with the USFWS and NYSDEC regarding potential rare, threatened, and endangered (RTE) species within the Project (consultation documentation in Appendix D). USFWS identified the following species as potentially occurring within

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the Project: Northern Long-eared Bat (federally threatened), and the Bog Turtle (federally threatened). NYSDEC identified the Lake Sturgeon (state threatened) as potentially occurring within the Project area. No critical habitats were identified within the Project area.

- The USFWS has not developed a recovery plan for the northern long-eared bat. The continued operation of the project is unlikely to impact the northern long-eared bat.
- Lake sturgeon, the largest native fish to the Great Lakes, were once abundant in New York, but commercial fishing, dam building and habitat loss decimated populations. The NYSDEC has been using artificial propagation of this species to reestablish populations in selected tributaries of the St. Lawrence River and Lake Ontario. The NYSDEC is currently cooperating with affiliated federal agencies, the State University of New York College of Environmental Science and Forestry in Syracuse, and other local entities to continue habitat improvement, stocking of fingerlings, educational programs, and protection from fishing harvest. The continued operation of the project in a modified run-of-river mode is not expected to impact the lake sturgeon.
- According to the 2001 bog turtle recovery plan, the extant population in Oswego County represents the northern range of this species. Bog turtles inhabit a variety of wetland types but generally prefer small, open-canopy, herbaceous sedge meadows and fens bordered by more thickly vegetated and wooded areas, and their primary habitat includes seepage or spring-fed emergent wetlands associated with streams, often at or near the headwaters of streams or small tributaries. Because the Varick Development is located in relatively highly developed, open-river areas, bog turtles are not expected to be found in the immediate vicinity of the project. As described in the recovery plan, conservation efforts focus on habitat protection, especially arresting succession of open wetlands to wooded swamp and control of invasive plants. Operations of the Oswego River Project according to the conditions of the 2004 Offer of Settlement is consistent with this recovery plan, as the modified run-of-river operating mode improves habitat—including wetland—conditions within the Project area.
- There are no specific requirements for endangered species protection in the FERC license or WQC for the Oswego River Project.

### **III.F.2 Threatened and Endangered Species: Varick Development Zone 2**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
F	2	<p><u>Recovery Planning and Action:</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Document that any incidental take permits and/or biological opinions</li> </ul>

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		currently in effect were designed as long-term solutions for protection of listed species in the area.
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- The Licensee consulted with the USFWS and NYSDEC regarding potential rare, threatened, and endangered (RTE) species within the Project (consultation documentation in Appendix D). USFWS identified the following species as potentially occurring within the Project: Northern Long-eared Bat (federally threatened), and the Bog Turtle (federally threatened). NYSDEC identified the Lake Sturgeon (state threatened) as potentially occurring within the Project area. No critical habitats were identified within the Project area.
- Recovery plans are discussed in Zone 1.
- There are no specific requirements for endangered species protection in the FERC license or WQC for the Oswego River Project.

### **III.F.3 Threatened and Endangered Species: Varick Development Zone 3**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
F	2	<p><u>Recovery Planning and Action:</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> </ul>

- The Licensee consulted with the USFWS and NYSDEC regarding potential rare, threatened, and endangered (RTE) species within the Project (consultation documentation in Appendix D). USFWS identified the following species as potentially occurring within the Project: Northern Long-eared Bat (federally threatened), and the Bog Turtle (federally threatened). NYSDEC identified the Lake Sturgeon (state threatened) as potentially occurring within the Project area. No critical habitats were identified within the Project area.
- Recovery plans are discussed in Zone 1.
- There are no specific requirements for endangered species protection in the FERC license or WQC for the Oswego River Project.

## Oswego River Project Recertification Application

### Information Required to Support Cultural and Historic Resources Standards

#### III.G.1 Cultural and Historic Resources Standards: Varick Zone 1

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
G	2	<u>Approved Plan:</u> <ul style="list-style-type: none"><li>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.</li><li>• Document that the facility is in compliance with all such plans.</li></ul>

- Pursuant to Article 410 of the license, the Licensee is required to implement its Programmatic Agreement with the State of New York executed on July 19, 1996, which includes implementation of its Cultural Resources Management Plan (CRMP). The CRMP was filed with FERC on March 8, 2006 and approved by FERC on January 26, 2007. Although there are no historical resources at the Project; the CRMP addresses the potential for undiscovered historic or archaeological resources during ground disturbing activities. The CRMP requires annual reporting to FERC.
- The last annual report was filed with FERC on January 27, 2017 and documented only minor ground-disturbing activities occurred in the prior year but were exempted from consultation in the “Compendium of Compatible Operations and Maintenance Activities (Categorical Exemptions for Historic Hydro Facilities).”

#### III.G.2 Cultural and Historic Resources Standards: Varick Zone 2

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
G	2	<u>Approved Plan:</u> <ul style="list-style-type: none"><li>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.</li><li>• Document that the facility is in compliance with all such plans.</li></ul>

- Pursuant to Article 410 of the license, the Licensee is required to implement its Programmatic Agreement with the State of New York executed on July 19, 1996, which includes implementation of its Cultural Resources Management Plan (CRMP). The CRMP was filed with FERC on March 8, 2006 and approved by FERC on January 26, 2007. Although there are no historical resources at the Project; the CRMP addresses the potential for undiscovered historic or archaeological resources during ground disturbing activities. The CRMP requires annual reporting to FERC.
- The last annual report was filed with FERC on January 27, 2017 and documented only minor ground-disturbing activities occurred in the prior year but were exempted from consultation in the “Compendium of Compatible Operations and Maintenance Activities (Categorical Exemptions for Historic Hydro Facilities).”

## Oswego River Project Recertification Application

### III.G.3 Cultural and Historic Resources Standards: Varick Zone 3

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
G	2	<u>Approved Plan:</u> <ul style="list-style-type: none"><li>• Provide documentation of all approved state, provincial, federal, and recognized tribal plans for the protection, enhancement, and mitigation of impacts to cultural and historic resources affected by the facility.</li><li>• Document that the facility is in compliance with all such plans.</li></ul>

- Pursuant to Article 410 of the license, the Licensee is required to implement its Programmatic Agreement with the State of New York executed on July 19, 1996, which includes implementation of its Cultural Resources Management Plan (CRMP). The CRMP was filed with FERC on March 8, 2006 and approved by FERC on January 26, 2007. Although there are no historical resources at the Project; the CRMP addresses the potential for undiscovered historic or archaeological resources during ground disturbing activities. The CRMP requires annual reporting to FERC.
- The last annual report was filed with FERC on January 27, 2017 and documented only minor ground-disturbing activities occurred in the prior year but were exempted from consultation in the “Compendium of Compatible Operations and Maintenance Activities (Categorical Exemptions for Historic Hydro Facilities).”

### **Information Required to Support Recreational Resources Standards**

### III.H.1 Recreational Resources Standards: Varick Development, Zone 1

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
H	2	<u>Agency Recommendation:</u> <ul style="list-style-type: none"><li>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.</li><li>• Document that the facility is in compliance with all such recommendations and plans.</li></ul>

- Pursuant to FERC License Article 409 of the Oswego River Project, the licensee filed the Final Revised Recreation Management Plan on January 6, 2006, and FERC issued an order approving the plan on August 8, 2006. The Plan was developed in consultation with NYSDEC, USFWS, and NPS. The Final Revised Recreation Management Plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=10921464>. FERC’s order approving the plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=11105867>.
- The Oswego River canal system receives intensive recreational boating use, and the locks and dams along the river are popular spots for shoreline fishing. NYSCC operates the Oswego River lock system seven days a week from 7 a.m. to 10 p.m. during peak navigation system (late May to early October) and reduced hours during the remainder of the season, and the locks provide boating access around the dams. The primary

## Oswego River Project Recertification Application

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recreational activity within the Oswego River Project’s boundaries is fishing at Erie facilities or the day-use-oriented recreational facilities managed by the state or local municipalities that are found along the stretch of the Oswego River spanned by the Oswego River Project.

- The City of Oswego’s West Side Linear Park and Linear Park Expansion Project at the Varick Development provides handicapped-accessible walkways and angler access. The park is a major seasonal fishing attraction. Thousands of fishermen use the facility each year as seasonal fish runs are made upstream to the Varick Dam. The Linear Park Expansion Project provided angler access to the forebay island (Varick Island). The Licensee contributed to the construction costs for an angler walkway over the tailrace (mounted on the powerhouse), a walkway onto Varick Island, and stairs into the bypassed reach. The Licensee also provides an area for public parking and access to Linear Park. Linear Park affords excellent opportunity to the handicapped angler. Handicapped parking is available with gently-sloped walkways and safety railings. A rampway leads from the parking to the promenade.
- The facility is in compliance with License Article 409. The most recent FERC Environmental Inspection Report, issued on September 1, 2015, stated the Licensee was in compliance with Article 409.

### **III.H.2 Recreational Resources Standards: Varick Development, Zone 2**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
H	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.</li> <li>• Document that the facility is in compliance with all such recommendations and plans.</li> </ul>

- Pursuant to FERC License Article 409 of the Oswego River Project, the licensee filed the Final Revised Recreation Management Plan on January 6, 2006, and FERC issued an order approving the plan on August 8, 2006. The Plan was developed in consultation with NYSDEC, USFWS, and NPS. The Final Revised Recreation Management Plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=10921464>. FERC’s order approving the plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=11105867>.
- The Oswego River canal system receives intensive recreational boating use, and the locks and dams along the river are popular spots for shoreline fishing. NYSCC operates the Oswego River lock system seven days a week from 7 a.m. to 10 p.m. during peak navigation system (late May to early October) and reduced hours during the remainder of the season, and the locks provide boating access around the dams. The primary recreational activity within the Oswego River Project’s boundaries is fishing at Erie facilities or the day-use-oriented recreational facilities managed by the state or local

## Oswego River Project Recertification Application

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municipalities that are found along the stretch of the Oswego River spanned by the Oswego River Project.

- The City of Oswego’s West Side Linear Park and Linear Park Expansion Project at the Varick Development provides handicapped-accessible walkways and angler access. The park is a major seasonal fishing attraction. Thousands of fishermen use the facility each year as seasonal fish runs are made upstream to the Varick Dam. The Linear Park Expansion Project provided angler access to the forebay island (Varick Island). The Licensee contributed to the construction costs for an angler walkway over the tailrace (mounted on the powerhouse), a walkway onto Varick Island, and stairs into the bypassed reach. The Licensee also provides an area for public parking and access to Linear Park. Linear Park affords excellent opportunity to the handicapped angler. Handicapped parking is available with gently-sloped walkways and safety railings. A rampway leads from the parking to the promenade.
- The facility is in compliance with License Article 409. The most recent FERC Environmental Inspection Report, issued on September 1, 2015, stated the Licensee was in compliance with Article 409.

### **III.H.3 Recreational Resources Standards: Varick Development, Zone 3**

<i>Criterion</i>	<i>Standard</i>	<i>Instructions</i>
H	2	<p><u>Agency Recommendation:</u></p> <ul style="list-style-type: none"> <li>• Document any comprehensive resource agency recommendations and enforceable recreation plan that is in place for recreational access or accommodations.</li> <li>• Document that the facility is in compliance with all such recommendations and plans.</li> </ul>

- Pursuant to FERC License Article 409 of the Oswego River Project, the licensee filed the Final Revised Recreation Management Plan on January 6, 2006, and FERC issued an order approving the plan on August 8, 2006. The Plan was developed in consultation with NYSDEC, USFWS, and NPS. The Final Revised Recreation Management Plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=10921464>. FERC’s order approving the plan is here: <https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=11105867>.
- The Oswego River canal system receives intensive recreational boating use, and the locks and dams along the river are popular spots for shoreline fishing. NYSCC operates the Oswego River lock system seven days a week from 7 a.m. to 10 p.m. during peak navigation system (late May to early October) and reduced hours during the remainder of the season, and the locks provide boating access around the dams. The primary recreational activity within the Oswego River Project’s boundaries is fishing at Erie facilities or the day-use-oriented recreational facilities managed by the state or local municipalities that are found along the stretch of the Oswego River spanned by the Oswego River Project.

## Oswego River Project Recertification Application

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- The City of Oswego's West Side Linear Park and Linear Park Expansion Project at the Varick Development provides handicapped-accessible walkways and angler access. The park is a major seasonal fishing attraction. Thousands of fishermen use the facility each year as seasonal fish runs are made upstream to the Varick Dam. The Linear Park Expansion Project provided angler access to the forebay island (Varick Island). The Licensee contributed to the construction costs for an angler walkway over the tailrace (mounted on the powerhouse), a walkway onto Varick Island, and stairs into the bypassed reach. The Licensee also provides an area for public parking and access to Linear Park. Linear Park affords excellent opportunity to the handicapped angler. Handicapped parking is available with gently-sloped walkways and safety railings. A rampway leads from the parking to the promenade.
- The facility is in compliance with License Article 409. The most recent FERC Environmental Inspection Report, issued on September 1, 2015, stated the Licensee was in compliance with Article 409.

**Oswego River Project Recertification Application**

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**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.

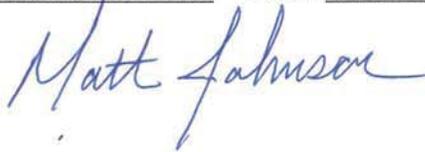
The Undersigned acknowledges that the primary goal of the Low Impact Hydropower Institute's Certification Program is public benefit, and that the LIHI Governing Board and its agents are not responsible for financial or other private consequences of its certification decisions.

The undersigned further acknowledges that if certification of the applying facility is issued, 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.

Company Name: Erie Boulevard Hydropower, L.P.

Authorized Representative Name: Matthew Johnson Title: Director of Asset Management



State of New York

County of Warren )

On this, the 9th day of October, 2017, before me a notary public, the undersigned officer, personally appeared Matthew Johnson, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purposes therein contained. In witness hereof, I hereunto set my hand and official seal.

Notary Public Brenda J Schermerhorn



**Oswego River Project Recertification Application**

**PART V. CONTACTS**

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

**FACILITY CONTACTS FORM**

<b>Project Owner:</b>	
Name and Title	
Company	Erie Boulevard Hydropower, L.P., a subsidiary of Brookfield Renewable
Phone	
Email Address	
Mailing Address	200 Donald Lynch Boulevard, Marlborough, MA 01752
<b>Project Operator (if different from Owner):</b>	
Name and Title	
Company	
Phone	
Email Address	
Mailing Address	
<b>Consulting Firm / Agent for LIHI Program (if different from above):</b>	
Name and Title	
Company	
Phone	
Email Address	
Mailing Address	
<b>Compliance Contact (responsible for LIHI Program requirements):</b>	
Name and Title	Daniel Daoust, Compliance Specialist
Company	Brookfield Renewable
Phone	315-598-6131
Email Address	<a href="mailto:Daniel.Daoust@brookfieldrenewable.com">Daniel.Daoust@brookfieldrenewable.com</a>
Mailing Address	33 West First Street South, Fulton, NY 13069
<b>Party responsible for accounts payable:</b>	
Name and Title	Sandeep Mascarenhas, Senior Analyst, Capacity & Ancillary Services Management
Company	Brookfield Renewable
Phone	819-561-2722 ext. 6743
Email Address	<a href="mailto:Sandeep.Mascarenhas@brookfieldrenewable.com">Sandeep.Mascarenhas@brookfieldrenewable.com</a>
Mailing Address	41 Victoria, Gatineau, QC J8X 2A1

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

<b>Agency Contact</b> (Check area of responsibility: Flows <u> X </u> , Water Quality <u> X </u> , Fish/Wildlife Resources <u> X </u> , Watersheds <u> </u> , T/E Spp. <u> </u> , Cultural/Historic Resources <u> </u> , Recreation <u> X </u> ):	
Agency Name	New York State Department of Environmental Conservation
Name and Title	Ian Blackburn
Phone	607-753-3095
Email address	<a href="mailto:Ian.blackburn@dec.ny.gov">Ian.blackburn@dec.ny.gov</a>
Mailing Address	1285 Fisher Avenue, Cortland, NY 13045

## Oswego River Project Recertification Application

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<b>Agency Contact</b> (Check area of responsibility: Flows __, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. <input checked="" type="checkbox"/> , 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	<a href="mailto:Nick.Conrad@dec.ny.gov">Nick.Conrad@dec.ny.gov</a>
Mailing Address	625 Broadway, Albany, NY 12233-4757

<b>Agency Contact</b> (Check area of responsibility: Flows __, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. <input checked="" type="checkbox"/> , 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	<a href="mailto:Robyn_Niver@fws.gov">Robyn_Niver@fws.gov</a>
Mailing Address	3817 Luker Road, Cortland, NY 13045

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

## **APPENDICES**

**APPENDIX A**  
**OSWEGO RIVER ZONES OF EFFECT**

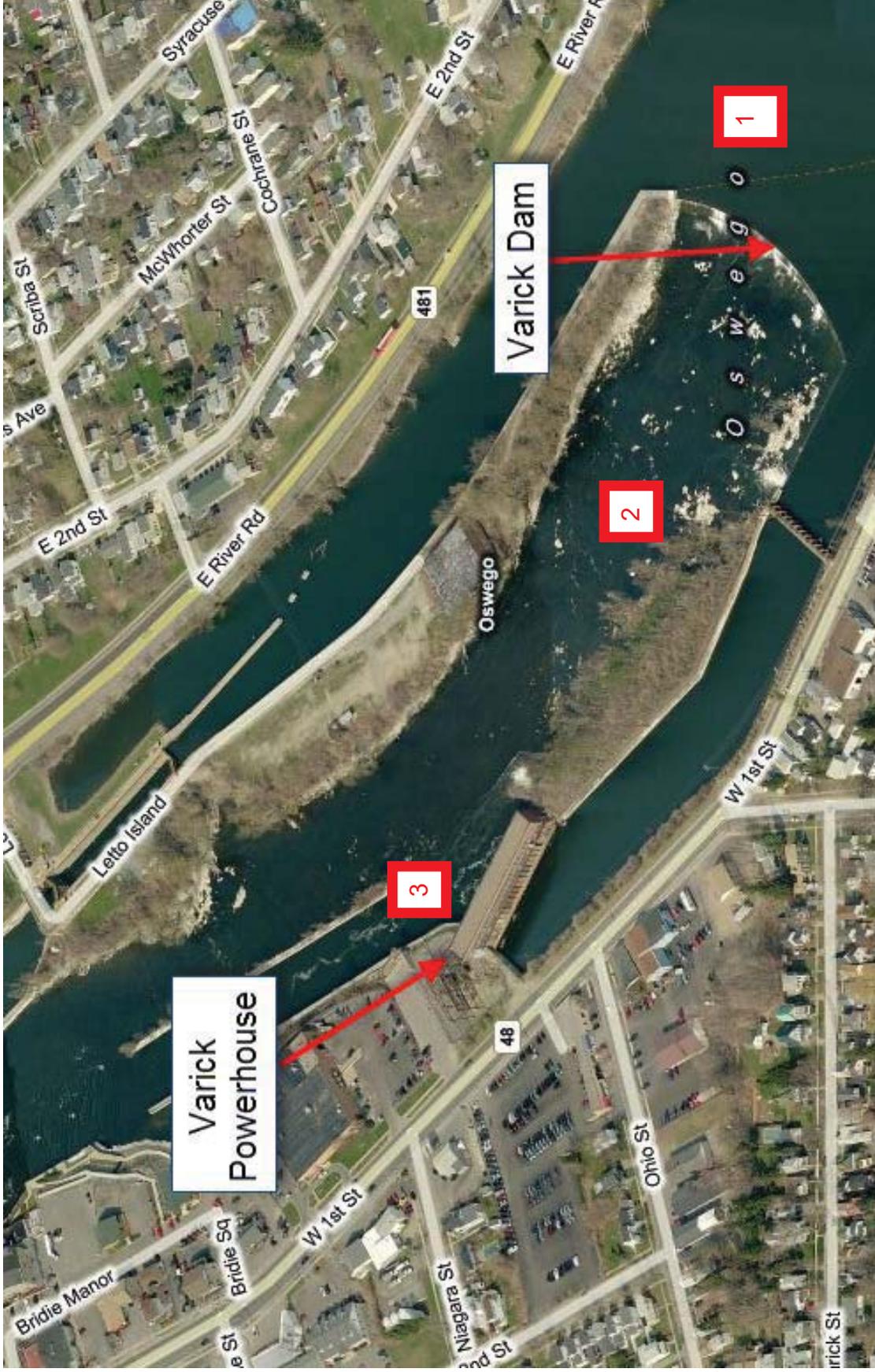
**GRANBY PROJECT & FULTON DEVELOPMENT**



**MINETTO DEVELOPMENT**



**VARICK DEVELOPMENT**

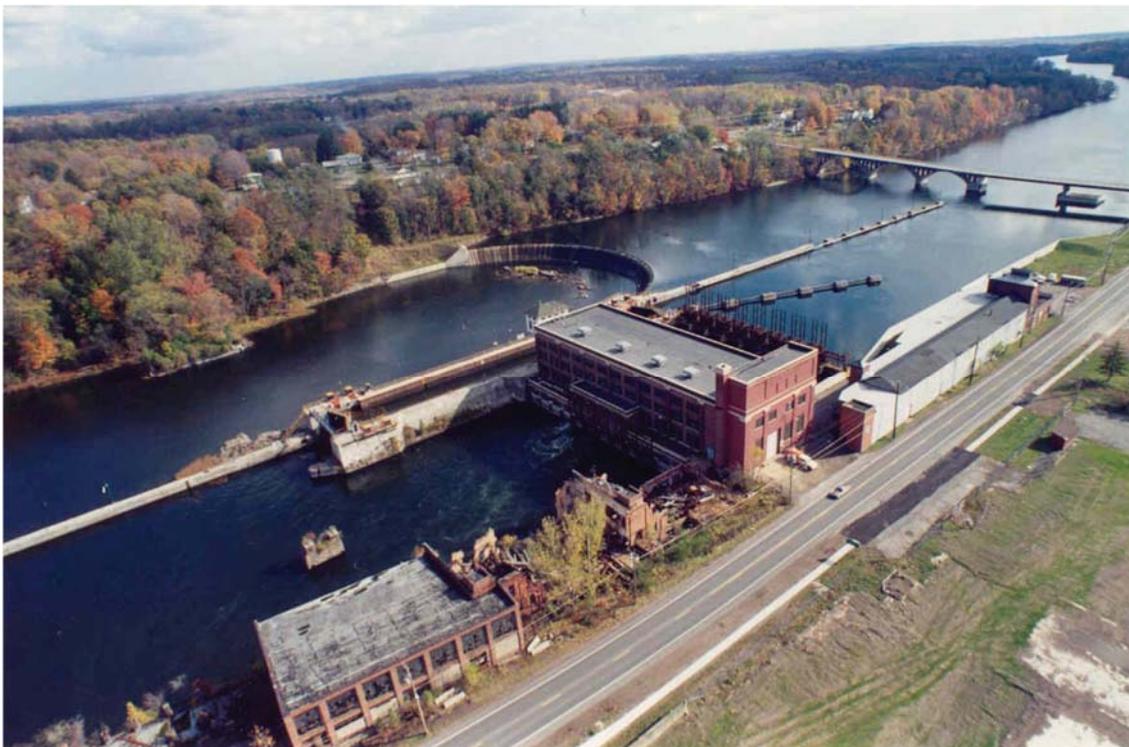


## **APPENDIX B**

### **PHOTOS OF KEY PROJECT FEATURES**



**Photo 1: Upstream view of the Fulton (left) and Granby (right) developments at Lower Fulton Dam/Lock 3.**



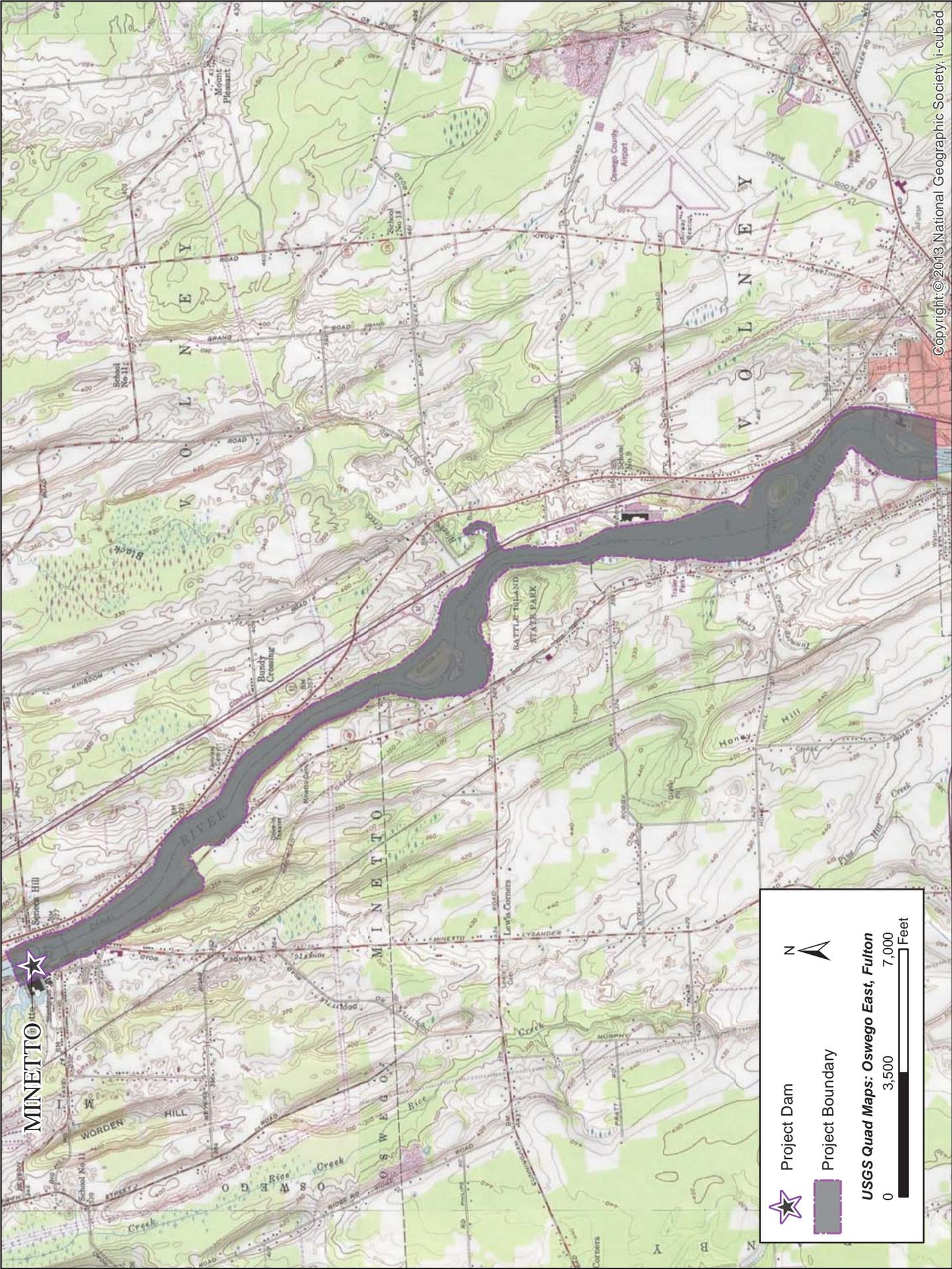
**Photo 2: Minetto Development at Minetto Dam/Lock 5.**



**Photo 3: Varick Development at Varick Dam/Lock 7.**

**APPENDIX C**  
**PROJECT MAPS AND AERIALS**





MINNETTO

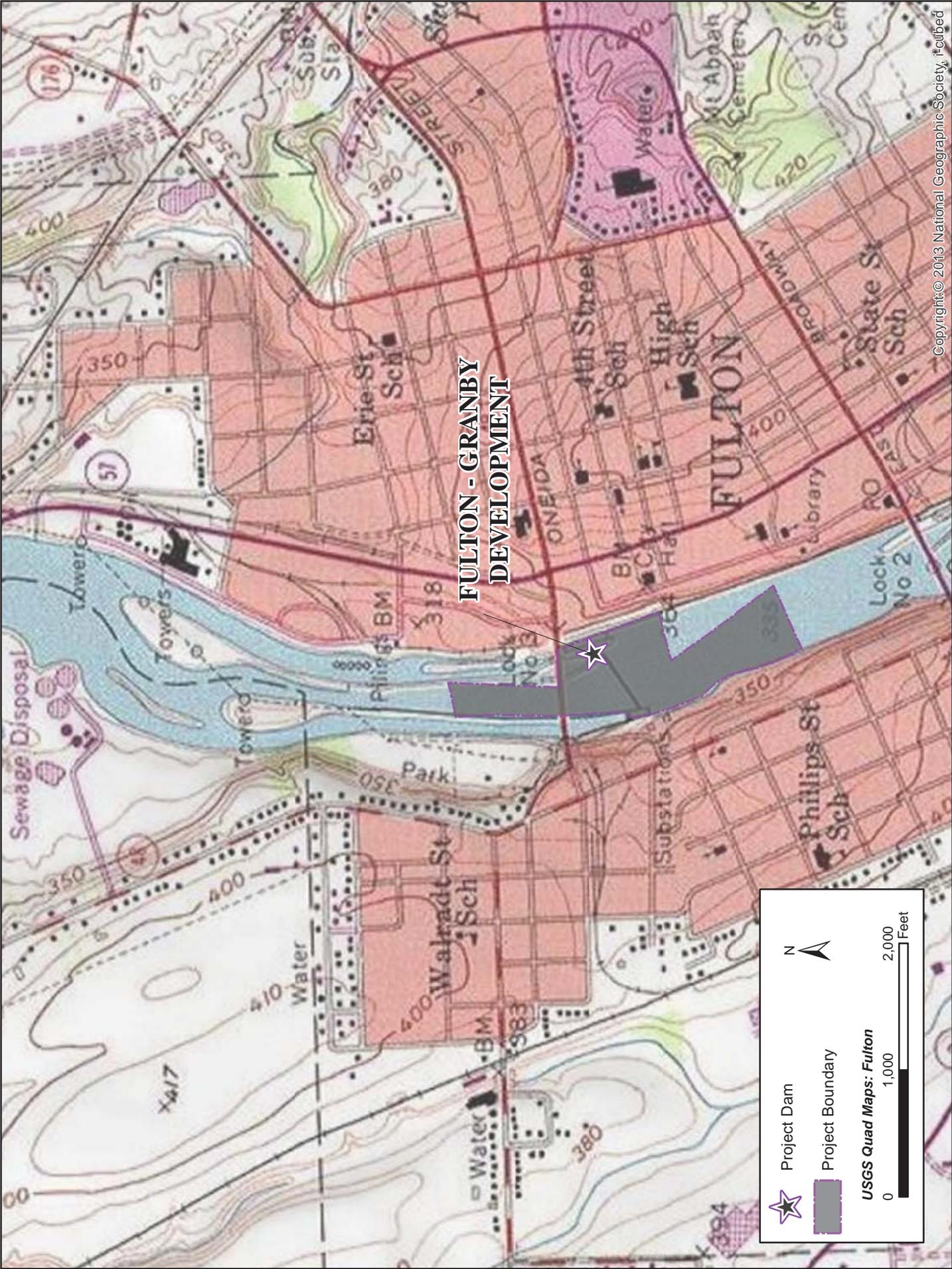


Project Dam

Project Boundary

USGS Quad Maps: Oswego East, Fulton

0 3,500 7,000 Feet



# FULTON - GRANBY DEVELOPMENT

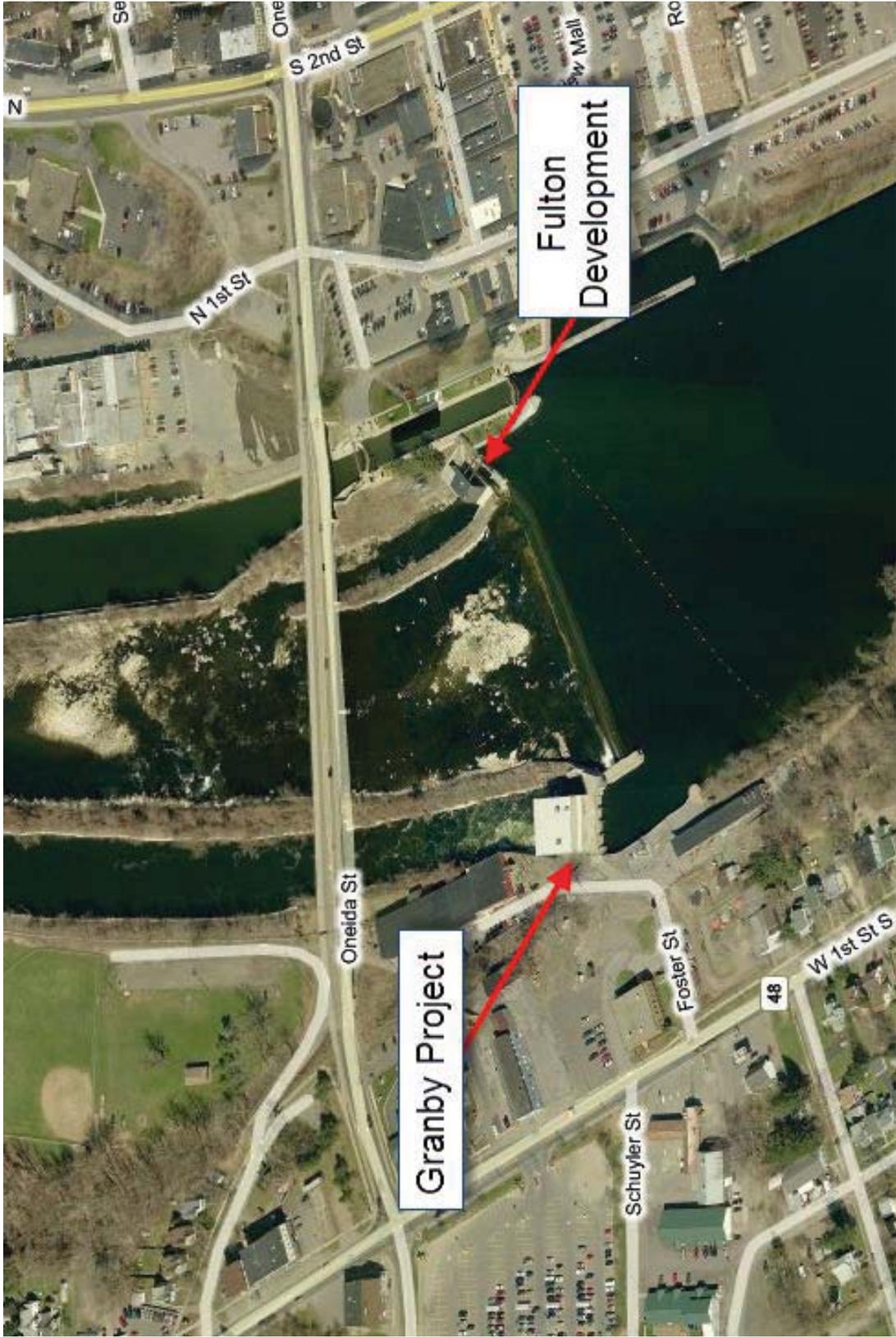
Project Dam

Project Boundary

USGS Quad Maps: Fulton

0 1,000 2,000 Feet

**GRANBY PROJECT & FULTON DEVELOPMENT**



**MINETTO DEVELOPMENT**



**VARICK DEVELOPMENT**



**APPENDIX D**

**CONSULTATION REGARDING 401 WATER QUALITY CERTIFICATE**

May 12, 2017

Mr. Ian Blackburn  
New York State Department of Environmental Conservation  
615 Erie Boulevard West  
Syracuse, NY 13204

Subject: **Oswego River Hydroelectric Projects (FERC Nos. 5984 & 2474)  
Low Impact Hydropower Institute Re-certification  
Water Quality Certificate Verification**

Dear Mr. Blackburn:

Erie Boulevard Hydropower, L.P. (Erie) is applying for Low Impact Hydropower Institute (LIHI) re-certification for the Oswego Falls (FERC No. 5984) and Oswego River (FERC No. 2474) projects. These projects are comprised of five hydroelectric developments located at four dams along the Oswego River. From upstream to downstream, these developments are the Oswego Falls East and West, Fulton, Minetto, and Varick developments. The Oswego Falls East and West developments (River Mile [RM] 12.6 – Lock 2) and Fulton development (RM 11.6 – Lock 3) are located in the City of Fulton at the Upper Fulton dam and Lower Fulton dam, respectively. The Minetto Development is located in the Town of Minetto at the Minetto dam (RM 5.1 – Lock 5). The Varick Development (RM 1.4 – Lock 7) is located at the Varick dam in the City of Oswego. LIHI requires that the re-certification application include confirmation that the subject projects are in compliance with conditions issued pursuant to Clean Water Act Section 401 water quality certifications issued for the projects, and that the previously issued water quality certificates are still valid.

Erie is requesting confirmation from the New York State Department of Environmental Conservation stating that the 401 Water Quality Certificates issued for the operation of the Oswego River Projects on August 25, 2006 and October 4, 2004 are still valid. Please provide this confirmation by reply to this letter via letter or email.

Erie would appreciate 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) 598-6131 or by email at [daniel.daoust@brookfieldrenewable.com](mailto:daniel.daoust@brookfieldrenewable.com).

Sincerely,



Daniel Daoust  
North Atlantic Operations

cc: I. Borlang (Erie)

**APPENDIX E**

**AGENCY CONSULTATION REGARDING RARE, THREATENED AND  
ENDANGERED SPECIES**



## United States Department of the Interior



### FISH AND WILDLIFE SERVICE

New York Ecological Services Field Office

3817 Luker Road

Cortland, NY 13045-9349

Phone: (607) 753-9334 Fax: (607) 753-9699

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

In Reply Refer To:

September 18, 2017

Consultation Code: 05E1NY00-2017-SLI-3409

Event Code: 05E1NY00-2017-E-09764

Project Name: Oswego River Project (FERC No. 2474) - Fulton Development

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/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the Services 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 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 13045-9349  
(607) 753-9334

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## Project Summary

Consultation Code: 05E1NY00-2017-SLI-3409

Event Code: 05E1NY00-2017-E-09764

Project Name: Oswego River Project (FERC No. 2474) - Fulton Development

Project Type: DAM

Project Description: Erie Boulevard Hydropower, L.P. (Erie) is preparing a Low Impact Hydropower Institute application for the Fulton development of the Oswego River Project (FERC No. 2474). As a part of this application process, Erie is formally consulting with the United States Fish and Wildlife Service (USFWS) to identify USFWS managed resources.

Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/43.3216025096758N76.41967845909787W>



Counties: Oswego, NY

## Endangered Species Act Species

There is a total of 3 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. 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.

### Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is <b>final designated</b> critical habitat for this species. Your location is outside the critical habitat.  Species profile: <a href="https://ecos.fws.gov/ecp/species/5949">https://ecos.fws.gov/ecp/species/5949</a>	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species.  Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

### Reptiles

NAME	STATUS
Bog Turtle <i>Clemmys muhlenbergii</i> Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species.  Species profile: <a href="https://ecos.fws.gov/ecp/species/6962">https://ecos.fws.gov/ecp/species/6962</a> Species survey guidelines: <a href="https://ecos.fws.gov/ipac/guideline/survey/population/182/office/52410.pdf">https://ecos.fws.gov/ipac/guideline/survey/population/182/office/52410.pdf</a> Habitat assessment guidelines: <a href="https://ecos.fws.gov/ipac/guideline/assessment/population/182/office/52410.pdf">https://ecos.fws.gov/ipac/guideline/assessment/population/182/office/52410.pdf</a>	Threatened

### Critical habitats

There are no critical habitats within your project area under this office's jurisdiction.

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## United States Department of the Interior



### FISH AND WILDLIFE SERVICE

New York Ecological Services Field Office

3817 Luker Road

Cortland, NY 13045-9349

Phone: (607) 753-9334 Fax: (607) 753-9699

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

In Reply Refer To:

September 18, 2017

Consultation Code: 05E1NY00-2017-SLI-3412

Event Code: 05E1NY00-2017-E-09769

Project Name: Oswego River Project (FERC No. 2474) - Minetto Development

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/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the Services 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 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 13045-9349  
(607) 753-9334

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## Project Summary

Consultation Code: 05E1NY00-2017-SLI-3412

Event Code: 05E1NY00-2017-E-09769

Project Name: Oswego River Project (FERC No. 2474) - Minetto Development

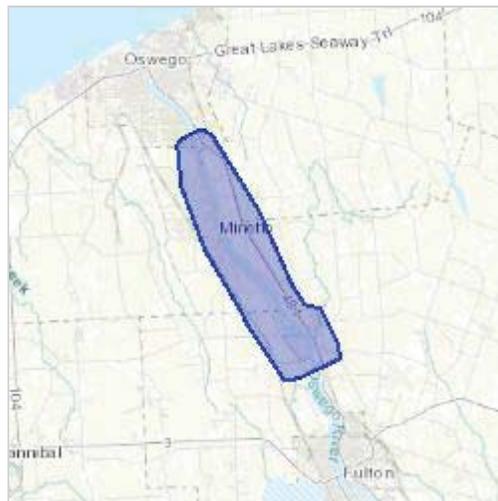
Project Type: DAM

Project Description: Erie Boulevard Hydropower, L.P. (Erie) is preparing a Low Impact Hydropower Institute application for the Minetto Development of the Oswego River Project (FERC No. 2474). As a part of this application process, Erie is formally consulting with the United States Fish and Wildlife Service (USFWS) to identify USFWS managed resources.

Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/43.392310090351714N76.46185584867374W>



Counties: Oswego, NY

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## Endangered Species Act Species

There is a total of 3 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. 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.

### Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is <b>final designated</b> critical habitat for this species. Your location is outside the critical habitat.  Species profile: <a href="https://ecos.fws.gov/ecp/species/5949">https://ecos.fws.gov/ecp/species/5949</a>	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species.  Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

### Reptiles

NAME	STATUS
Bog Turtle <i>Clemmys muhlenbergii</i> Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species.  Species profile: <a href="https://ecos.fws.gov/ecp/species/6962">https://ecos.fws.gov/ecp/species/6962</a> Species survey guidelines: <a href="https://ecos.fws.gov/ipac/guideline/survey/population/182/office/52410.pdf">https://ecos.fws.gov/ipac/guideline/survey/population/182/office/52410.pdf</a> Habitat assessment guidelines: <a href="https://ecos.fws.gov/ipac/guideline/assessment/population/182/office/52410.pdf">https://ecos.fws.gov/ipac/guideline/assessment/population/182/office/52410.pdf</a>	Threatened

### Critical habitats

There are no critical habitats within your project area under this office's jurisdiction.

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## United States Department of the Interior



### FISH AND WILDLIFE SERVICE

New York Ecological Services Field Office

3817 Luker Road

Cortland, NY 13045-9349

Phone: (607) 753-9334 Fax: (607) 753-9699

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

In Reply Refer To:

September 18, 2017

Consultation Code: 05E1NY00-2017-SLI-3413

Event Code: 05E1NY00-2017-E-09771

Project Name: Oswego River Project (FERC No. 2474) - Varick Development

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/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the Services 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 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 13045-9349  
(607) 753-9334

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## Project Summary

Consultation Code: 05E1NY00-2017-SLI-3413

Event Code: 05E1NY00-2017-E-09771

Project Name: Oswego River Project (FERC No. 2474) - Varick Development

Project Type: DAM

Project Description: Erie Boulevard Hydropower, L.P. (Erie) is preparing a Low Impact Hydropower Institute application for the Varick Development of the Oswego River Project (FERC No. 2474). As a part of this application process, Erie is formally consulting with the United States Fish and Wildlife Service (USFWS) to identify USFWS managed resources.

Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/43.450954148449235N76.50383200365859W>



Counties: Oswego, NY

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## Endangered Species Act Species

There is a total of 2 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. 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.

### Mammals

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

### Reptiles

NAME	STATUS
Bog Turtle <i>Clemmys muhlenbergii</i> Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species.  Species profile: <a href="https://ecos.fws.gov/ecp/species/6962">https://ecos.fws.gov/ecp/species/6962</a> Species survey guidelines: <a href="https://ecos.fws.gov/ipac/guideline/survey/population/182/office/52410.pdf">https://ecos.fws.gov/ipac/guideline/survey/population/182/office/52410.pdf</a> Habitat assessment guidelines: <a href="https://ecos.fws.gov/ipac/guideline/assessment/population/182/office/52410.pdf">https://ecos.fws.gov/ipac/guideline/assessment/population/182/office/52410.pdf</a>	Threatened

### Critical habitats

There are no critical habitats within your project area under this office's jurisdiction.

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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

June 14, 2017

Daniel Daoust  
Brookfield Renewable Erie Boulevard Hydropower, L.P.  
33 West 1st Street South  
Fulton, NY 13069

Re: Oswego River Hydroelectric Projects (FERC Nos. 5984 and 2474)  
County: Oswego    Town/City: City Of Fulton, City Of Oswego, Granby, Lysander, Minetto,  
Schroepel, Volney

Dear Mr. Daoust:

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

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

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 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 7 Office, Division of Environmental Permits, as listed at [www.dec.ny.gov/about/39381.html](http://www.dec.ny.gov/about/39381.html).

Sincerely,



Nicholas Conrad  
Information Resources Coordinator  
New York Natural Heritage Program



Department of  
Environmental  
Conservation



**The following state-listed animals have been documented within the Oswego River project boundaries or in their vicinities.**

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 the project, contact the Permits staff at the NYSDEC Region 7 Office. For information about potential impacts of the project on these species, and how to avoid, minimize, or mitigate any impacts, contact the Wildlife Manager or Fisheries Manager.**

A listing of Regional Offices is at <http://www.dec.ny.gov/about/558.html>.

COMMON NAME	SCIENTIFIC NAME	NY STATE LISTING	FEDERAL LISTING
Lake Sturgeon	<i>Acipenser fulvescens</i>	Threatened	923

*This stretch of the Oswego River is also part of state-significant waterfowl winter concentration area, and is part of the Oswego River Significant Coastal Fish and Wildlife Habitat, as designated by the NYS Department of State. For more information, see [www.dos.ny.gov/opd/programs/consistency/Habitats/GreatLakes/Oswego\\_River.pdf](http://www.dos.ny.gov/opd/programs/consistency/Habitats/GreatLakes/Oswego_River.pdf).*

Bald Eagle <i>Nesting</i>	<i>Haliaeetus leucocephalus</i>	Threatened	14914

Indiana Bat <i>Maternity roosts and non-winter capture locations</i>	<i>Myotis sodalis</i>	Endangered	Endangered 12153

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 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](http://www.guides.nynhp.org), and from NYSDEC at [www.dec.ny.gov/animals/7494.html](http://www.dec.ny.gov/animals/7494.html).