November 26, 2025 **Carthage Mill (West End) Project (FERC No. 5800)**

Ms. Shannon Ames, Executive Director
Low Impact Hydropower Institute
329 Massachusetts Avenue, Suite 2
Lexington, MA 02420

Subject: **Low Impact Hydropower Institute Application for the Carthage Mill (West End) Project (FERC No. 5800)**

Dear Ms. Ames:

On behalf of Northbrook Carthage LLC(NCLLC), exemptee for the Carthage Mill (West End) Project (FERC No. 5800) located on the Black River in Carthage and West Carthage, NY, Relevate Power herein provides the attached application requesting certification of this facility.

The current application includes the following required submittals as modified to address comments received by LIHI as part of the intake review:

- Introduction
- Project Description and LIHI Table 1.a
- Zones of Effect descriptions and overview maps and images
- Matrix of Alternative Standards for each Zone of Effect identified (LIHI Table 2.b) and evaluation of the LIHI certification standards for each requisite criterion including water quality, fish passage and recreation (LIHI Tables 3 – 10)
- Sworn Statement and Waiver Form
- Facility Contacts Form (LIHI Tables 11 – 14)
- List of hyperlinks and supplemental documentation for pertinent FERC and regulatory documents for the Project

Please call me at (207) 233-1995 or email me at Kelly.Maloney@relevatepower.com if you have any questions or need additional information regarding this submittal.

Sincerely,

Kelly Maloney
VP, Regulatory Compliance

LOW IMPACT HYDROPOWER INSTITUTE CERTIFICATION APPLICATION FOR THE CARTHAGE MILL (WEST END) PROJECT (FERC NO. 5800)

June 2025

RELEVATE POWER

LOW IMPACT HYDROPOWER INSTITUTE CERTIFICATION APPLICATION

FOR THE CARTHAGE MILL (WEST END) PROJECT (FERC NO. 5800)

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LOW IMPACT HYDROPOWER INSTITUTE CERTIFICATION APPLICATION

FOR THE CARTHAGE MILL (WEST END) PROJECT (FERC NO. 5800)

1.0 PROJECT DESCRIPTION

1.1 Project Facilities

The Carthage Mill (West End) Hydroelectric Project works consist of an approximately 1,300 foot long, low-hazard dam with an uncontrolled spillway, a non-overflow concrete wall section, a sluice gate, and a powerhouse with an integral intake. The dam has an 8 ft long by 8 ft wide sluice gate and multiple minimum flow notches. The spillway has a total of six slots measuring 8 inches deep in dam: three 21-ft-long notches; one 15-ft-long notch, one 31-ft-long notch and one 21-ft, 6-in-long notch. The spillway does not have flashboards.

The powerhouse intake gates measure 23 ft long by 23 ft wide and the intake trashracks are in two sections that are 21 ft long by 40 ft wide. Trashrack spacing is 3.5" on center. The powerhouse is a concrete structure containing two turbine-generator units with a total capacity to generate 5.0 MW, and an overhead crane. The powerhouse has two units: a 2.6 MW Kaplan unit with a hydraulic capacity of 1,990 cfs and a 2.4 MW Kaplan unit with a hydraulic capacity of 1,940 cfs.

The Project is a run-of- river facility with a normal full pond elevation of 702 ft msl. The Project impoundment is the tailrace/bypass reach of the Tannery Island Dam (FERC No. 4908). The Project powerhouse discharges to an 1,100-ft-long tailrace channel which merges with flows from the bypass reach and the tailrace of the Long Falls Dam to the Black River. River flows into the Black River from upstream are regulated by the Hudson River – Black river Regulating District.

An exemption from licensing for the Carthage Mill (West End) Project was issued by the FERC on July 11, 1983.

Figure 1. Project Facilities – Carthage Mill (West End) Project Boundary (Exhibit G)

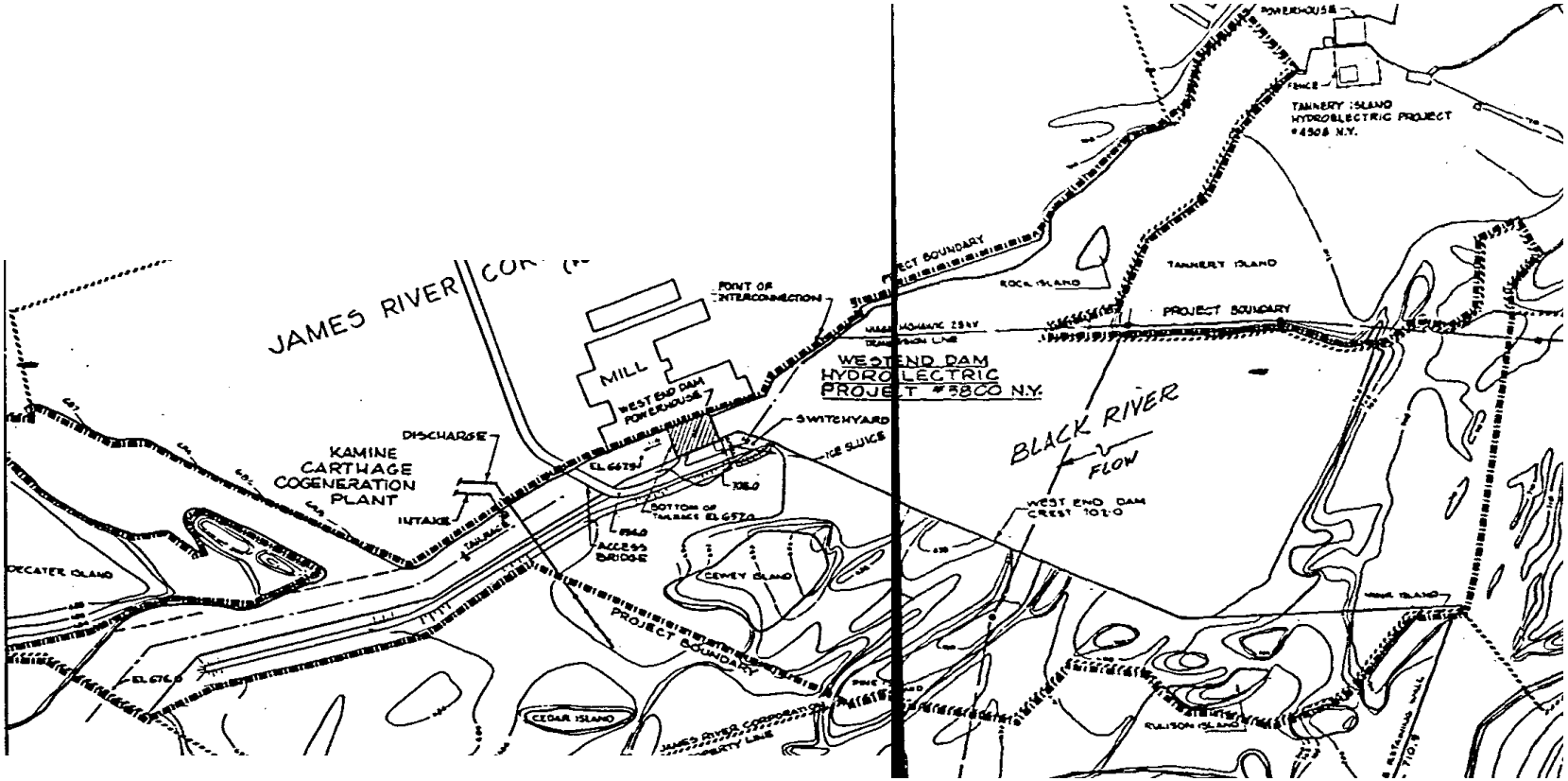


Figure 2. Carthage Mill (West End) Project Facilities (Impoundment, Spillway and Bypass Reach)

Figure 3. Carthage Mill (West End) Project Facilities (Tailrace)

Figure 4. Carthage Mill (West End) Project Facilities (Powerhouse and Forebay)

Figure 5. **Carthage Mill (West End) Project Facilities (Powerhouse, Forebay and Spillway with Minimum Flow section)**

1.2 Project Operations

NCLLC operates the Project in run-of-river mode. The existing impoundment is approximately 1,800 ft long, with a surface area of about 13 acres at a full pond headwater surface elevation of 702.7 ft msl. The Project has a gross storage capacity of an estimated 53 ac-ft, and the usable storage capacity is negligible, being a run-of-river project. A headwater surface elevation close to full pond (702 ft msl) is normally maintained when river flows are at or below the hydraulic capacity of the turbines.

The Dam is operated to provide a continuous interim flow specified by the New York Department of Environmental Conservation (NYSDEC) by letter dated February 24, 1987 following their analysis of the 1986 streamflow study prepared by Barns & Williams (citation could not be found). At Channel 1 (ice sluice), 91 cfs is released at all times except 200 cfs is released from March 15 to May 15 for walleye spawning, including 111 cfs through the sluice gate, which is lowered 2.25 ft during this time. At Channel 2 and 3 (minimum flow notches), 79 cfs and 27 cfs are released at all times respectively. The Long Falls Dam also discharges to the bypass reach as discussed below.

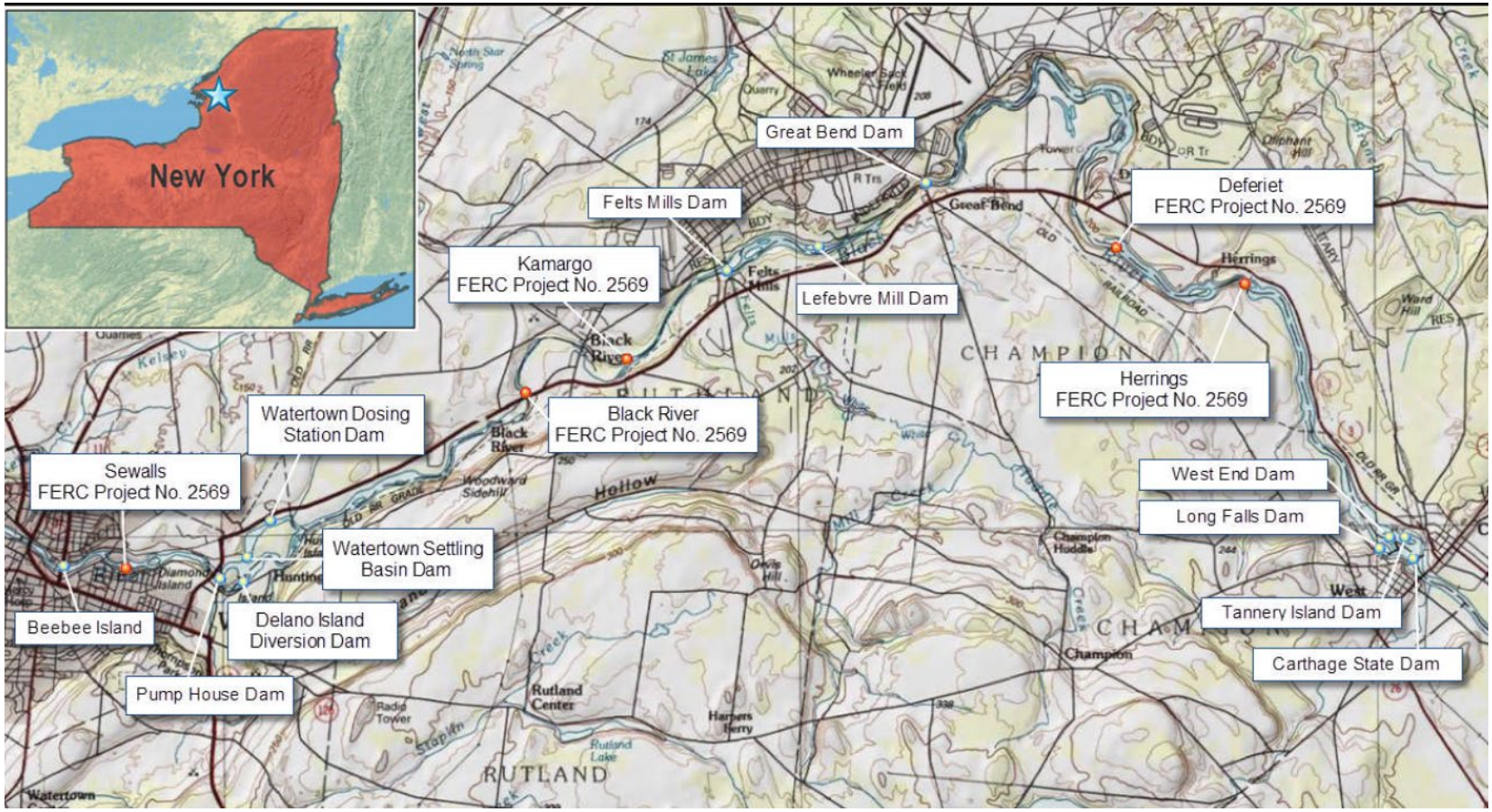
Project operations, water levels and flows are dictated by the July 11, 1983 Exemption Order, NYDEC's 1987 letter referenced above, and the Order Amending Exemption to increase the capacity of the Project, issued by the FERC on March 14, 1995. Specifically, FERC approved the Project as described in the January 6, 1982 Application for Exemption from Licensing and the October 25, 1994 Application for Amendment of Exemption.

The Licensee employs a SCADA-based system to monitor and record key operational metrics such as pond levels, turbine output, and headwater and tailwater elevations. These systems are overseen by onsite personnel and reviewed regularly to ensure compliance with operational requirements.

1.3 Project Location

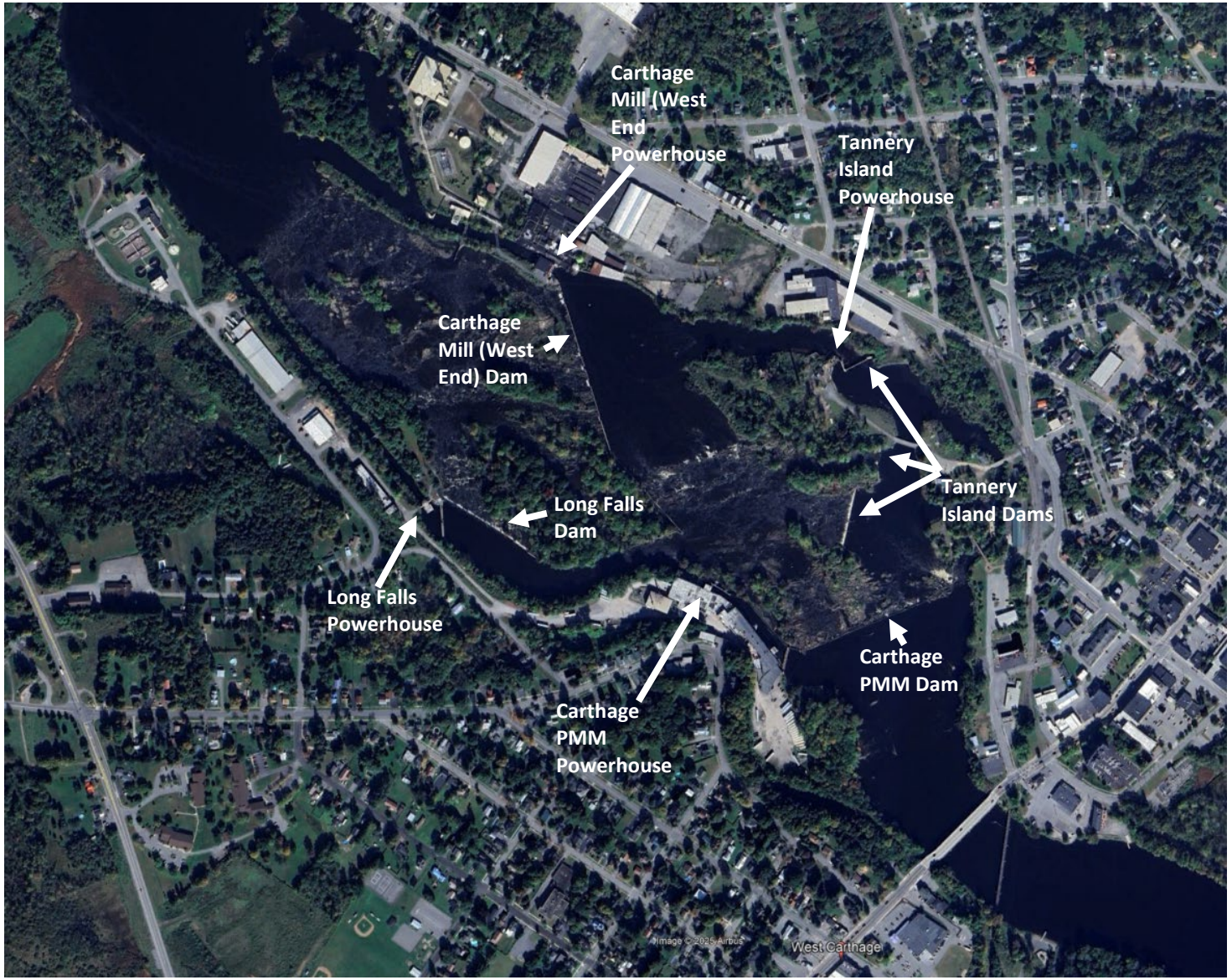
The Carthage Mill (West End) Project (Project) is located on the Black River in the towns of Carthage and West Carthage in Jefferson County, New York. The Black River is approximately 112 miles (mi) long from its headwaters at North Lake in the foothills of the Adirondack Mountains downstream to the confluence with Lake Ontario near the town of Dexter, New York. The Project is in close proximity to the Carthage Paper Maker Mills (Carthage PMM) Dam, Tannery Island Dam (FERC No. 4908) and Long Falls Dam (FERC No. 4636) and is approximately 3 miles upstream of the Herrings Development of the Black River Project (FERC No. 2569).

Figure 6. Project Location – Carthage Mill (West End) Project



Source: Excerpted from Erie Boulevard Hydropower, L.P., 2011 (Black River Project (FERC No. 2569) LIHI Application 2011)

Figure 7. Project and Surrounding Facilities Location



1.4 Regulatory and Other Requirements and Compliance Status

1.4.1 FERC Exemption and Compliance Status

The Carthage Mill (West End) Project (FERC No. 5800) received an exemption from licensing on June 7, 1982 by operation of law wherein Crown Zellerbach Corp. filed an exemption application on February 5, 1982 which was deemed granted by operation of law because FERC had not acted on it by the deadline of June 7, 1982. FERC issued an order vacating the exemption by operation of law on July 20, 1982. On July 11, 1983, FERC issued an order reinstating the exemption following a court decision ruling the FERC did not have the authority to rescind the exemption issued by operation of law.

An amendment to the exemption order on March 14, 1995 to increase the Project's authorized installed capacity to reflect as-built conditions. Specifically, the Project's exemption authorized an installed capacity of 4,500 kW. However, the as-built conditions resulted in a powerhouse containing two 2,660-kW generators connected to two Kaplan turbines with a rated capacity of 2,500 kW each resulting in an authorized installed capacity of 5,000 kW.

The Exemptee has changed throughout the term of the exemption. The following provides a list of exemptees and the estimatee periods of ownership:

- Crown Zellerbach Corp, original exemptee (1983 – 1984)
- SNC Hydro, Inc. and West End Dam Associates, co-exemptees (1984 – 2011)
- Carthage Industrial Development Corporation (2011 – 2014)
- Northbrook Carthage LLC (2014 – present)

Relevate Hydro, LLC (previously Dichotomy Hydro, LLC) purchased Northbrook Carthage LLC on October 31, 2020.

No notices of violation of the existing exemption have been issued by FERC.

1.4.2 Water Quality and Quantity

As discussed elsewhere, the Carthage Mill (West End) Project operates under the terms of a FERC exemption order and does not have a water quality certification (WQC). However, the Project is still subject to the water quality regulations of the state pursuant to the Clean Water Act and provides minimum flows as dictated by the NYSDEC.

The Black River is heavily regulated with 21 dams along its length and several impoundments that feed the New York State Barge Canal System. Waters in the basin are used for industrial and municipal water

supply, irrigation, waste disposal, power generation, recreation and aquatic wildlife habitat (Erie Boulevard Hydropower, L.P., 2024).

Within the immediate proximity of the Carthage Mill (West End) Project are three hydroelectric Projects (see Figure 7), which all operate as run-of-river facilities:

- Carthage Paper Maker Mills (Carthage PMM) Project (FERC No. 10887): The Carthage PMM Dam impounds the Black River. Both the powerhouse and the west side of the dam discharge to the Long Falls and Carthage Mill (West End) impoundments. The east side of the dam discharges to the Tannery Island impoundment. Minimum flows of 685 cfs, or inflows, whichever is less, are required from Carthage PMM Dam. The Project operates in run-of-river mode.

- Tannery Island Project (FERC No. 4908): The Tannery Island Dams ("A", "B" and "C") impound the Tannery Island impoundment, which backwaters to the base of the eastern section of the Carthage PMM Dam. The Tannery Island Dams "B" and "C" and Tannery Island Dam "A" and its integral powerhouse all discharge to the Long Falls and Carthage Mill (West End) impoundments. Tannery "B" and "C" dams release a minimum flow of 106 cfs into the mid-portion of the Long Falls and Carthage Mill (West End) impoundments. The powerhouse, operated in run-of-river mode, discharges to the eastern portion of the Long Falls and Carthage Mill (West End) impoundments.

- Long Falls Project (FERC No. 4636): The Long Falls Dam impounds the Long Falls and Carthage Mill (West End) impoundments. The Long Falls Dam discharges to the bypass reach of both Long Falls Dam and Carthage Mill (West End) dam. A total minimum bypass reach flow of 204 cfs is discharged from Long Falls Dam to the bypass reach from mid-May through mid-March and a total minimum bypass reach flow of 770 cfs is discharged from mid-March to mid-May. The Long Falls powerhouse discharges to the Black River. The Project operates in run-of-river mode.

- Carthage Mill (West End) Project (FERC No. 5800): The Carthage Mill (West End) Dam impounds the Long Falls and Carthage Mill (West End) impoundments. The Carthage Mill (West End) Dam discharges a total minimum flow of 197 cfs to the bypass reach of both Long Falls Dam and Carthage Mill (West End) dam from mid-May through mid-March and a total minimum bypass reach flow of 306 cfs is discharged from mid-March to mid-May. The Carthage Mill (West End) powerhouse, operated in run-of-river mode, discharges to the Black River.

The reach of the Black River, including the Carthage Mills (West End) zones of effect are Class C. Class C waters "shall be suitable for fish, shellfish, and wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes."(NYS, 2025a)

1.4.3 Fish Passage

There are no specific fish passage provisions of the Project's exemption order. However, Exemption Standard Article 2 states: *The construction, operation, and maintenance of the exempt project must comply with any terms and conditions that the United States Fish and Wildlife Service, the National Marine Fisheries Service, and any state fish and wildlife agencies have determined are appropriate to prevent loss of, or damage to, fish or wildlife resources or otherwise to carry out the purposes of the Fish and Wildlife Coordination Act, as specified in exhibit E of the application for exemption from licensing or in the comments submitted in response to the notice of exemption application*. US Fish and Wildlife Service has reserved its authority to prescribe fish passage pursuant to Section 18.

The American Eel (Anguilla rostrata), is documented from the lowest portion of the river near the confluence but is considered nearly extirpated from the river system as a whole, generally as a result of the extensive locks and dam systems (Bergman Associates, 2010). The fish community in the vicinity of the Project is otherwise comprised of residence species such as shiner, smallmouth bass and pumpkinseed (Beak, 1989). The Project is not within designated Essential Fish Habitat (EFH), pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (NMFS, 2025).

1.4.4 Land Management

Lands within the Carthage Mill (West End) FERC project boundary are generally limited to those necessary for operation and maintenance of the Project and for other Project purposes. The Project does not have an abundance of shoreline lands, with the project boundary generally following the full pond elevation of the impoundment, plus lands encompassing the project structures and immediate adjacent lands. Exemption orders do not convey the right of eminent domain.

1.4.5 Recreational Resources

There are no FERC-approved Project specific recreation facilities or access points at the Project. The general area is highly industrialized and comprised of several dams and powerhouses and would be unsafe for on-water recreation. There are three parks which provide recreation opportunities immediately upstream and downstream of the project area:

- Long Falls Park: This facility provides parking, restroom facilities, picnic tables, a pavilion, and stone pathways leading to Guyot's Island within and providing views of the Tannery Island impoundment upstream of Tannery Island Dam). This facility is owned and operated by the town of Carthage (1000 Islands, 2025).

- Long Falls Hydro Rec Site: This site features parking, picnic areas, a small trail and shoreline access to the Long Falls and Carthage Mill (West End) bypass reach and Long Falls tailrace. The park is located on an island which separates the bypass reach from the Long Falls powerhouse tailrace. This site is a FERC-approved recreation site for the Long Falls Hydro Project (Fourth Branch Associates, 1999) owned and operated by the Exemptee.

- West Carthage Boat Launch: This site features parking and a paved boat launch with courtesy dock, benches and picnic facilities and provides shoreline access to the Black River (downstream of the confluence of the bypass reach, tailrace and the tailrace of the Long Falls powerhouse). This site is owned and operated by the town of West Carthage.

1.4.6 Cultural Resources

There are no specific articles relevant to cultural and historic resources. However, any modification of project structures, other than in-kind replacement, would require an amendment of exemption from the FERC, which would necessitate agency consultation, including with the NY State Historic Preservation Office (SHPO). Further, any of these modification and any maintenance or repair efforts involving ground disturbance, would necessitate a permit from the state, requiring consultation with SHPO pursuant to NYS regulations 14.09 Part 426. None of the project structures are listed on the National Register of Historic Properties (NPS, 2025).

Relevate initiated preliminary outreach and consultation with federally recognized Native American tribes (identified via Service List for the recent Black River relicensings and listed in Section 6.3). No responses were received. There are no known or identified traditional cultural properties within the project area.

Table 1. Facility Information

Item	*Information Requested*	*Response (include references to further details)*
Name of the Facility	Facility name (use FERC project name or other legal name)	Carthage Mill Project (FERC No. 5800)
Reason for applying for LIHI certification	1. To participate in state RPS program (specify the state and the total MW/MWh associated with that participation (value and % of facility total MW/MWh) 2. To participate in voluntary REC market (e.g., Green-e) 3. To satisfy a direct energy buyer's purchasing requirement 4. To satisfy the facility's own corporate sustainability goals 5. For the facility's corporate marketing purposes 6. Other (describe)	1. Yes. MA Class II RPS program. 100% of the Carthage Mill (West End) Project generation output is qualified, estimated to be 21,983 MWh in 2024. 2. No 3. No 4. Yes, but participating in the MA RPS program is currently the primary reason 5. Yes, but participating in the MA RPS program is currently the primary reason.
	If applicable, amount of annual generation (MWh and % of total generation) for which RECs are currently received or are expected to be received upon LIHI Certification	100% of Carthage Mill (West End)'s generation (estimated at 21,983 MWh in 2024) is qualified for the MA Class II RPS program
Location	River name (USGS proper name)	Black River
	Watershed name (select region, click on the area of interest until the 8-digit HUC number appears. Then identify watershed name and HUC-8 number from the map at: https://water.usgs.gov/wsc/map_index.html)	Black River at Watertown NY - 04260500
	Nearest town(s), county(ies), and state(s) to dam	Carthage and West Carthage, Jefferson County, NY
	River mile of dam above mouth	RM 32.8
	Geographic latitude of dam	43°58'52.75"N
	Geographic longitude of dam	75°37'11.16"W
Facility Owner	Application contact names	Kelly Maloney, VP, Regulatory Compliance

Item	*Information Requested*	*Response (include references to further details)*
	Facility owner company and authorized owner representative name. **For recertifications: If ownership has changed since last certification, provide the date of the change.**	Northbrook Carthage, LLC Kelly Maloney, VP Regulatory Compliance This is a new certification
	FERC licensee company name (if different from owner)	
Other Owners	If different from hydro facility owner, Provide the dam owner(s)/operator(s) entity names (see also Table 11).	
Regulatory Status	FERC Project Number (e.g., P-xxxxx), issuance and expiration dates, or date of exemption	Carthage Mill (West End) Project FERC No. 5800 Exemption Issued July 11, 1983
	FERC license type (major, minor, exemption) or special classification (e.g., "qualified conduit", "non-jurisdictional")	Exemption
	Water Quality Certificate identifier, issuance date, and issuing agency name. Include information on amendments. Include links or copies.	N/A
	Hyperlinks to key electronic records on FERC e-library website or other publicly accessible data repositories	See Sections 6.0 and 7.0 for hyperlinks to, or documentation of, relevant records, including FERC Exemptions and Amendment Orders; FERC and regulatory filings; and other key documents.
Powerhouse	Date of initial operation (past or future for pre-operational applications)	Carthage Mill (West End): 1914
	Total installed capacity (MW) **For recertifications: Indicate if installed capacity has changed since last certification**	5.0 MW
	Average annual generation (MWh) and period of record used **For recertifications: Indicate if average annual generation has changed since last certification**	21,983 MWh (Period of Record: 1986 to 2024)
	Mode of operation (run-of-river, peaking, pulsing, seasonal storage, diversion, etc.) **For recertifications: Indicate if mode of operation has changed since last certification**	Run-of-river

<table>
<tr><th>Item</th><th>Information Requested</th><th>Response (include references to further details)</th></tr>
<tr><td rowspan="6"></td><td>Number, type, and size of turbines, including maximum and minimum hydraulic capacity of each unit</td><td>2 Turbine-Generators – Kaplan

<table><tr><th>Unit</th><th>Max Hydraulic Capacity (cfs)</th><th>Unit Authorized Installed Capacity (MW)</th></tr><tr><td>1</td><td>1,990</td><td>2.6</td></tr><tr><td>2</td><td>1,940</td><td>2.4</td></tr><tr><td>TOTAL</td><td>3,930</td><td>5.0</td></tr></table></td></tr>
<tr><td>Trashrack clear spacing (inches), for each trashrack</td><td>3.5 inch clear spacing</td></tr>
<tr><td>Approach water velocity (ft/s) at each intake if known</td><td>2.34 fps</td></tr>
<tr><td>Dates and types of major equipment upgrades
For recertifications: Indicate only those since last certification</td><td>1995 – unit upgrade to current configuration

1998 - addition of an ice sluiceway and various flow notches along the crest of the dam.</td></tr>
<tr><td>Dates, purpose, and type of any recent operational changes
For recertifications: Indicate only those since last certification</td><td>No operational changes from run-of-river operations has occurred.</td></tr>
<tr><td>Plans, authorization, and regulatory activities for any facility upgrades or license or exemption amendments</td><td>Order Amending Exemption to increase the capacity of the Project, issued by the FERC on March 14, 1995

No current plans.</td></tr>
<tr><td rowspan="2">Dam or Diversion</td><td>Date of original construction and description and dates of subsequent dam or diversion structure modifications</td><td>1914 – Original construction

1998 - addition of an ice sluiceway and various flow notches along the crest of the dam.</td></tr>
<tr><td>Dam or diversion structure height including separately, the height of any flashboards, inflatable dams, etc.</td><td>The main, or spillway portion of this dam, is approximately 1,300 feet long and has a height ranging from 1.5 to 18 feet.</td></tr>
</table>

Item	*Information Requested*	*Response (include references to further details)*
	Spillway elevation and hydraulic capacity	See above. The hydraulic capacity of the spillway is approximately 28,000 cfs at max elevation of 705.7 ft (assuming consistent spillway height of 18 ft).
	Tailwater elevation (provide normal range if available)	Minimum tailwater elevation of 680.3 ft msl; variable based on operation of the downstream Herrings Development of the Black River Project.
	Length and type of all penstocks and water conveyance structures between the impoundment and powerhouse	N/A
	Dates and types of major infrastructure changes	See "Date of original construction and description and dates of subsequent dam or diversion structure modifications" section above.
	Designated facility purposes (e.g., power, navigation, flood control, water supply, etc.)	Power
	Source water	Black River
	Receiving water and location of discharge	Black River
Conduit	Date of conduit construction and primary purpose of conduit	N/A
Impoundment and Watershed	Authorized maximum and minimum impoundment water surface elevations **For recertifications: Indicate if these values have changed since last certification**	702 ft msl (crest elevation of dam) 705.7 ft msl
	Normal operating elevations and normal fluctuation range **For recertifications: Indicate if these values have changed since last certification**	Run of river project is operated to maintain normal full pond elevation at approximately 702 ft msl which allows flow through the multiple minimum flow notches in the dam at 701.34 ft msl invert elevation.
	Gross storage volume and surface area at full pool **For recertifications: Indicate if these values have changed since last certification**	Gross Storage Volume: Estimated 53 acre-ft. Surface Area: 13 acres at full pond
	Usable storage volume and surface area **For recertifications: Indicate if these values have changed since last certification**	Negligible; run-of-river

Item	*Information Requested*	*Response (include references to further details)*
	Describe requirements related to impoundment inflow and outflow, elevation restrictions (e.g. fluctuation limits, seasonality) up/down ramping and refill rate restrictions.	Operated in a run-of-river mode where inflow equals outflow. Flows in excess of station hydraulic capacity are spilled over the spillway. No ramping or refill rate restrictions.
	Upstream dams by name, ownership and river mile. If FERC licensed or exempt, please provide FERC Project number of these dams. Indicate which upstream dams have downstream fish passage.	Carthage PMM Dam, State of New York, RM 33.1 Tannery Island Dam, Ampersand Hydro LLC, RM 33.0 Long Falls Dam, Ampersand Hydro LLC, RM 32.9
	Downstream dams by name, ownership, river mile and FERC number if FERC licensed or exempt. Indicate which downstream dams have upstream fish passage	Herrings Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 27.5 Deferiet Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 26.0 Great Bend Dam, RM 22.15 Lefebvre Mill Dam, RM 20.55 Felts Mills Dam, RM 19.6 Kamargo Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 17.0 Black River Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 15.0 Watertown Dosing Station Dam, RM 12.2 Watertown Settling Basin Dam, RM 11.9 Delano Island Diversion Dam, City of Watertown, FERC No. 2442, RM 11.7 Pump House Dam, RM 11.3 Sewalls Development, Erie Boulevard Hydropower, L.P., FERC No. 2569, RM 10.0
	Operating agreements with upstream or downstream facilities that affect water availability and facility operation	1925 Black River Regulating Board Agreement
	Area of land (acres) and area of water (acres) inside FERC project boundary or under facility control. Indicate locations and acres of flowage rights versus fee-owned property.	Water: 13 acres Land: approximately less than 1 acres

<table>
<tr><th>Item</th><th>Information Requested</th><th>Response (include references to further details)</th></tr>
<tr><td>Hydrologic Setting</td><td>Average annual flow at the dam, and period of record used</td><td><u>USGS 04260500 BLACK RIVER AT WATERTOWN NY</u>
Period of Record 2010-2015
<table><tr><th>Year</th><th>Average Flow (cfs)</th></tr><tr><td>2014</td><td>5,335</td></tr><tr><td>2015</td><td>3,984</td></tr><tr><td>2016</td><td>3,943</td></tr><tr><td>2017</td><td>5,557</td></tr><tr><td>2018</td><td>4,636</td></tr><tr><td>2019</td><td>5,363</td></tr><tr><td>2020</td><td>4,443</td></tr><tr><td>2021</td><td>3,808</td></tr><tr><td>2022</td><td>4,580</td></tr><tr><td>2023</td><td>4,711</td></tr><tr><td>2024</td><td>4,929</td></tr><tr><td>Average</td><td>4,663</td></tr></table></td></tr>
<tr><td></td><td>Average monthly flows and period of record used</td><td><u>USGS 04260500 BLACK RIVER AT WATERTOWN NY</u>
Period of Record 1920-2015
<table><tr><th>Month</th><th>Average Flow (cfs)</th></tr><tr><td>January</td><td>4,380</td></tr><tr><td>February</td><td>3.840</td></tr><tr><td>March</td><td>6,190</td></tr><tr><td>April</td><td>9,790</td></tr><tr><td>May</td><td>5,290</td></tr><tr><td>June</td><td>2,910</td></tr><tr><td>July</td><td>2,240</td></tr><tr><td>August</td><td>1,980</td></tr><tr><td>September</td><td>2,150</td></tr><tr><td>October</td><td>3,550</td></tr><tr><td>November</td><td>4,550</td></tr><tr><td>December</td><td>4,770</td></tr></table></td></tr>
<tr><td></td><td>Location and name of closest stream gauging stations above and below the facility</td><td>Downstream - Black River at Watertown NY – 04260500

Upstream - Black River Near Boonville NY - 04252500</td></tr>
<tr><td></td><td>Watershed area at the dam (in square miles). Identify if this value is prorated and provide the basis for proration.</td><td>Unknown</td></tr>
</table>

Item	*Information Requested*	*Response (include references to further details)*
Designated Zones of Effect	Number of zones of effect	3
	Upstream and downstream locations by river miles	Zone 1: Carthage Mill (West End) Impoundment; RM 32.8 to 33 Zone 2: Carthage Mill (West End) Bypass Reach; RM 32.8 to 32.4 Zone 3: Carthage Mill (West End) Project Tailrace/Downstream Regulated River Reach; RM 32.8 to 32.4)
Pre-Operational Facilities		
Expected operational date	Date generation is expected to begin	N/A
Dam, diversion structure or conduit modification	Description of modifications made to a pre-existing conduit, dam or diversion structure needed to accommodate facility generation. This includes installation of flashboards or raising the flashboard height. Date the modification is expected to be completed	N/A
Change in water flow regime	Description of any change in impoundment levels, water flows or operations required for new generation	N/A

2.0 LIHI Certification Requirements and Compliance Status

The Carthage Mill (West End) Project is not currently LIHI-certified; this is an initial application for certification.

3.0 ZONES OF EFFECT

Zone 1 – Impoundment (RM 32.8 to 33): The Carthage Mill (West End) Project Impoundment Zone of Effect backwaters from the Carthage Mill (West End) Project Dam upstream to the Tannery Island Dam (FERC No. 4908) and the Carthage PMM Dam and the impoundment is also formed by the Long Falls Dam Project (FERC No. 4636).

Zone 2 – Bypass Reach (RM 32.8 to 32.4): The Carthage Mill (West End) Project also includes an approximate 2,000-ft-long Bypass Zone of Effect, which also serves as the bypass reach for the Long Falls Dam Project (FERC No. 4636). The bypass reach discharges into the Mainstem of the Black River merging with the Project's turbine discharge flows as well as those from the Long Falls Dam powerhouse.

Zone 3 – Tailrace/ (RM 32.8 to 32.6): The Carthage Mill (West End) Project powerhouse tailrace extends approximately 1,100 ft downstream merging with the bypass reach to the Mainstem of the Black River.

Zone 4 - Regulated River Reach (RM 32.6 to 32.4): The Downstream Regulated River Reach includes a short reach of the Mainstem downstream of the tailrace and the convergence of flows from the spillway (bypass reach of Carthage Mill (West End) dam), as well as from the Long Falls Project (including flows from the Long Falls powerhouse and spillway (which discharges flows into the Carthage Mill (West End) bypass reach).

The reach of the Black River upstream of the Carthage Mill (West End) Project receives run-of-river flows from the Tannery Island Project and the Carthage PMM Dam. The Carthage Mill (West End) impoundment is backwatered by the Project Dam as well as Long Falls Dam to the base of the Tannery Island and Carthage PMM Dams. The Carthage Mill (West End) Project is operated in a run-of-river mode with minimum impoundment fluctuations and river flows in excess of the capacity of the Project and the Long Falls powerhouse are passed into the bypass reach. In addition, the Carthage Mill (West End) Project has minimum flow provisions based on consultation with NYSDEC. The reach of the Black River downstream of the Carthage Mill (West End) Project receives run-of-river flows from the Carthage Mill (West End) Project and the Long Falls Project. This reach is designated as Class C, and historic water quality monitoring indicates that this reach meets water quality standards (NYSDEC, 2025b).

There are no anadromous fish species in this section of the Black River including all Zones of Effect, which is dominated by resident species such as smallmouth bass (Erie Boulevard Hydro, LP, 2024). As such, there are no upstream and downstream fish passage facilities at the Project for anadromous/catadromous fish.

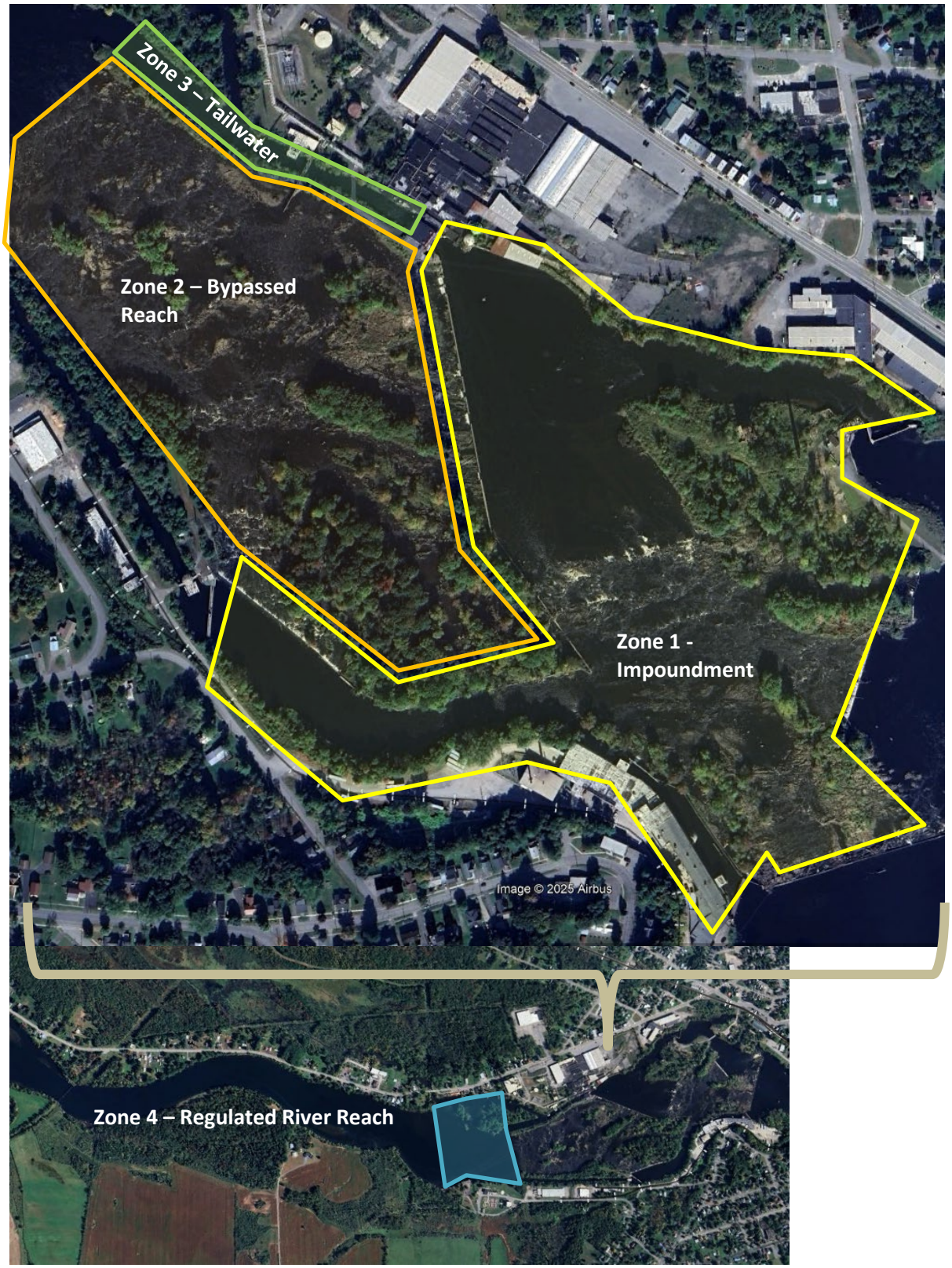
Other than the dam and powerhouse parcel, impoundment shoreline lands are not located within the project boundary. The shoreline lands at the Carthage Mill (West End) Project are unaffected by Project operations, as the Project is managed for a stable headpond, and only Project structures occupy lands within the project boundary.

Two species are listed as federally Endangered/Threatened having the potential to occupy the Project area, Indiana Bat and Northern Long- Eared Bat (NLEB) (USFWS, 2025a). Threatened and endangered bats, including NLEB, are not affected by routine Project operations, as there are minimal lands within the project boundary and extremely limited vegetation management activities conducted by NCLLC. No federally listed aquatic species were reported and no state listed rare plants or animals nor significant natural communities are identified for the project area (NYSDEC, 2025a), though both the Indiana bat and NLEB are state listed as endangered.

There are no known archaeological sites at the Project and the Project is not listed on the NRHP (NPS, 2025). Archaeological sites are at little risk due to stable headpond management operations and run of river operations mimic the natural hydrograph.

There are no recreation facilities in the project boundary (Zones of Effect 1, 2 and 3) as this area is heavily industrialized and of limited expanse having several dams within very close proximity to one another. There are two parks which provide recreation opportunities immediately upstream and downstream of these Project Zones of Effect: Long Falls Park (upstream of Zone 1 and Tannery Island Dam) and West Carthage Boat Launch (downstream of the project boundary within Zone 4).

Figure 8. Zones of Effect – Carthage Mill (West End) Project



3.1 Zone 1 – Carthage Mill (West End) Impoundment

The Project Dam backwaters the Black River to the base of the Carthage PMM Dam and the Tannery Island Dam. The Zone of Effect for this reach extends from RM 32.8 (the location of the dam) to RM 33 (the location of the Tannery Island Dam).

Table 2. Zone 1 – Carthage Mill (West End) Impoundment Zone Matrix of Alternative Standards

		Alternative Standards				
	Criterion	***1***	***2***	***3***	***4***	***Plus***
A	**Flow Regimes**		***X***			
B	**Water Quality**	***X***				
C	**Upstream Fish Passage**	***X***				
D	**Downstream Fish Passage**	***X***				
E	**Shorelines and Watershed**	***X***				
F	**Threatened and Endangered Species**	***X***				
G	**Cultural and Historic Resources**	***X***				
H	**Recreational Resources**	***X***				

3.2 Zone 2 – Carthage Mill (West End) Bypass Reach

Carthage Mill (West End) Dam consists of a concrete structure with an integral powerhouse. The dam spillway is approximately 1,300 feet long and uncontrolled with a sluice gate and several minimum flow notches. The bypass reach of the Project extends approximately 2,000 feet below the spillway section of the dam from approximately RM 32.8 to RM 32.4 of the Black River. The Project is operated in a run-of-river mode. Flows in excess of the station's hydraulic capacity are discharged through the sluice, minimum flow notches, or over the spillway.

Table 3. Zone 2 – Carthage Mill (West End) Bypass Reach Zone Matrix of Alternative Standards

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

3.3 Zone 3 - Carthage Mill (West End) Project Tailrace

The Project includes a single powerhouse integral with the dam. The tailrace begins at RM 32.8 and extends downstream to RM 32.6 running parallel with the bypass reach before merging to the Black River.

Table 4. Zone 3 – Carthage Mill (West End) Project Tailrace Zone Matrix of Alternative Standards

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

3.4 Zone 4 - Carthage Mill (West End) Downstream Regulated River Reach

The downstream regulated river reach begins at RM 32.6 and extends downstream to RM 32.4 and includes flows from the Carthage Mill (West End) project powerhouse, the bypass reach flows which include those from both the Carthage Mill (West End) dam and Long Falls dam, and the Long Falls powerhouse. As all of the facilities located in the reach of the Black River extending upstream of and adjacent to the Carthage Mill (West End) Project are operated in run-of-river mode, all flows that come into this reach of the river are passed into Zone 4.

Table 5. Zone 4 – Carthage Mill (West End) Downstream Regulation River Reach Zone Matrix of Alternative Standards

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

4.0 LIHI Certification Criterion

4.1 Flow Regimes

The stated Low Impact Hydropower Institute goal for Criterion A – Ecological Flow Regimes is, "The flow regimes in riverine reaches that are affected by the facility support habitat and other conditions suitable for healthy fish and wildlife resources." Though the Zones of Effect all meet Standard A-2, as discussed below, discussion of the applicable standards for each Zone of Effect is provided in the Sections below as the particular flow operations are unique to each Zone of Effect.

The Project is operated in run-of-river mode, targeting generally stable headpond elevations. The Project bypass reach receives water from spill flows and agency recommended minimum flows. The tailrace flows are dictated by Project operations and the tailrace experiences a backwater effect from the Black River.

4.1.1 Zone 1 - Carthage Mill (West End) Impoundment

Criterion	Standard	Supporting Information
A	**2** The flow regime was developed and is being implemented in accordance with science-based resource agency and, if applicable, science-based or indigenous knowledge-based tribal government recommendations	**Resource Agency and Tribal Government Recommendation**: • Identify the proceeding and source, date, and specifics of the agency and any tribal government recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally protective). • Explain the scientific, technical, or indigenous knowledge basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement. • Explain how the recommendation relates to formal agency and tribal management goals and objectives for fish and wildlife. • Explain how the recommendation provides fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations). • Explain how flows are monitored for compliance.

The Carthage Mill (West End) impoundment is operated in accordance with the FERC Exemption Order to target a stable headpond by passing inflows equivalent to outflows and by limiting impoundment drawdowns to only those necessary for maintenance and repairs. The headpond is also subject to the operation of the Long Falls Dam powerhouse as both the Long Falls Dam and Carthage Mill (West end) Dam form the impoundment.

NCLLC monitors Carthage Mill (West End) Project operations, including impoundment elevations and flows as discharged via the sluice, powerhouse, and minimum flow notches in the spillway, in order to maintain compliance with requirements for run-of-river operations and headpond elevations. Maintenance of stable headpond elevations assures compliance with run-of-river obligations wherein to maintain a stable headpond, inflows into the Carthage Mill (West End) Project are passed downstream into the Black River via the various project conveyances, as well as via Long Falls Dam operations.

Any deviations from run-of-river operations and minimum flows at the Project are reported to FERC. Two complaints regarding flows into the entirety of the Black River have been filed with FERC in 2015 and in 2024. In 2015, FERC determined that "a project located upstream…performed a ponding and releasing procedure from January 20, 2015, to February 2, 2015, and this caused a loss in power production. Based on the information that you provided, your project(s) was in compliance with your license/exemption during the referenced time period and no further action is required." In 2024, FERC received complaints regarding unusual flows in the Black River that affected whitewater recreation. FERC requested information from all licensees/exemptees on the Black River, for which responses were filed in September. FERC has yet to make a determination.

Although this Zone of Effect is operated in run-of-river mode with stable headpond elevations and inflows equal to outflows, Standard A-2 applies because this Zone of Effect includes the bypass reach of the Tannery Island Dam.

4.1.2 Zone 2 - Carthage Mill (West End) Bypass Reach

Criterion	Standard	Supporting Information
A	**2** The flow regime was developed and is being implemented in accordance with science-based resource agency and, if applicable, science-based or indigenous knowledge-based tribal government recommendations	**Resource Agency and Tribal Government Recommendation**: • Identify the proceeding and source, date, and specifics of the agency and any tribal government recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally protective). • Explain the scientific, technical, or indigenous knowledge basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement.

		• Explain how the recommendation relates to formal agency and tribal management goals and objectives for fish and wildlife. • Explain how the recommendation provides fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations). • Explain how flows are monitored for compliance.

There is no formally prescribed minimum flow into the bypass reach at the Project included in the exemption order. However, the Exemptee has agreed to provide minimum flows as determined by NYSDEC sufficient to support dissolved oxygen levels downstream and aquatic habitats. Specifically, at Channel 1 (ice sluice), 91 cfs is released at all times except 200 cfs is released from March 15 to May 15 for walleye spawning. At Channel 2 and 3 (minimum flow notches), 79 cfs and 27 cfs are released at all times respectively. Any deviations from run-of-river operations and minimum flows at the Project are reported to FERC.

As a result of the agency recommended minimum flow regime, Standard 2 applies for the Project's Bypass Reach Zone of Effect.

4.1.3 Zone 3 - Carthage Mill (West End) Project Tailrace

Criterion	Standard	Supporting Information
A	**2** The flow regime was developed and is being implemented in accordance with science-based resource agency and, if applicable, science-based or indigenous knowledge-based tribal government recommendations	**Resource Agency and Tribal Government Recommendation**: • Identify the proceeding and source, date, and specifics of the agency and any tribal government recommendation applied (NOTE: there may be more than one; identify and explain which is most environmentally protective). • Explain the scientific, technical, or indigenous knowledge basis for the agency recommendation, including methods and data used. This is required regardless of whether the recommendation is or is not part of a Settlement Agreement. • Explain how the recommendation relates to formal agency and tribal management goals and objectives for fish and wildlife. • Explain how the recommendation provides fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations). • Explain how flows are monitored for compliance.

As discussed above, flows are discharged from powerhouse to the Mainstem of the Black River via an 1,100-ft-long tailrace channel that runs parallel to the bypass reach channel. NCLLC monitors all discharges from the powerhouse and all flows in excess of station capacity, or at times when the station is curtailed or ceases operations, pass via spill at Carthage Mill (West End) Dam. Any deviations from run-of-river operations at the Carthage Mill (West End) Project are reported to FERC. Due to these operations, Standard 2 applies for Zone 3.

4.1.4 Zone 4 - Carthage Mill (West End) Downstream Regulated River Reach

Criterion	Standard	Supporting Information
A	**1** The facility operates in a true run-of-river operational mode and there are no bypassed reaches or water diversions associated with the applicable Zone of Effect, or the facility is located within an existing water conduit that does not discharge into natural waterways	**Not Applicable/De Minimis Effect**: • Confirm the location of the powerhouse relative to any dam/diversion structures and demonstrate that there are no bypassed reaches in the designated Zone of Effect. • For run-of-river facilities, provide details on operations and describe how flows, water levels, and operations are monitored to ensure such an operational mode is maintained. In a conduit facility, identify the source waters, location of discharge points, and receiving waters for the conduit system within which the hydropower facility is located. This standard cannot be used for conduits which discharge to a natural waterbody. • Describe the target fish and wildlife resources that were considered and how the resultant flow regime supports their habitats over their life cycles. • For impoundment zones, explain water management (e.g., fluctuations, ramping, refill rates, restrictions) and how those requirements support fish and wildlife habitat within the ZoE.

The reach of the Black River downstream of the Carthage Mill (West End) Project receives run-of-river flows from the Carthage Mill (West End) Project and the Long Falls Project. Both Projects pass flows either via the spillways to the bypass reach (with bypass reach minimum flows) or through the powerhouses. In either case, inflows are passed without restraint and no ponding occurs upstream that would affect how flows are conveyed into this reach. Due to these operations, Standard 1 applies for Zone 4.

4.2 Water Quality

The stated Low Impact Hydropower Institute goal for Criterion B – Water Quality is, "Water quality is protected in waterbodies directly affected by the facility, including downstream reaches, bypassed reaches, and impoundments above dams and diversions." A discussion of the applicable standards by Zone of Effect is provided in the Sections below.

The Mainstem of the Black River inclusive of Carthage Mill (West End) Project waters is Class C. According to New York statute, Class C waters must be suitable for the following designated uses: fish, shellfish and wildlife propagation and fishing and primary and secondary-contact recreation, though factors may limit the use for these purposes. Class C waters must have no substances that adversely affect taste, color or odor, have no algal blooms, and no sewage or industrial wastes that cause impairment. The following numeric standards are applicable to Class C waters (NYS, 2025a):

Table 6. Numeric Water Quality Standards for Class B waters

Parameter	***Standard***
pH	Shall not be less than 6.5 nor more than 8.5.
Dissolved oxygen (DO)	For trout spawning waters (TS) the DO concentration shall not be less than 7.0 mg/L from other than natural conditions. For trout waters (T), the minimum daily average shall not be less than 6.0 mg/L, and at no time shall the concentration be less than 5.0 mg/L. For nontrout waters, the minimum daily average shall not be less than 5.0 mg/L, and at no time shall the DO concentration be less than 4.0 mg/ L.
E. coli	The monthly geometric mean, from a minimum of five examinations, shall not exceed 200

Source: NYS, 2025a

Section 303(d) of the Federal Clean Water act designates and requires states to maintain a list of impaired waters, where designated uses are not fully supported. In addition, the state must develop strategies to reduce the specific pollutant(s), such as a Total Maximum Daily Load (TMDL). The list of impaired waters is updated every two years by NYSDEC with the most recent issued in 2022. None of the segments of the Black River within the project area, nor any project impoundments, are identified in New York's Section 303(d) list of impaired waters (NYSDEC, 2022).

4.2.1 Zone 1 - Carthage Mill (West End) Impoundment

Criterion	Standard	Supporting Information
B	**1** The facility does not alter the physical, chemical, or biotic water characteristics necessary to support fish and wildlife resources or human water uses (e.g., water supply or recreation) in the applicable Zone of Effect	**Not Applicable / De Minimis Effect::** • The Project is operated in run-of-river mode targeting passing inflows as outflows via the spillway and powerhouse. There are no water quality issues or impairments in this reach.

Water quality monitoring has not been recently conducted for this reach. This section of the Black River is not likely impaired as it is not listed on NYSDEC's 2020 305(b) report and 303(d) list (NYSDEC, 2022).

Any deviations from run-of-river operations at the Project are reported to FERC.

While the Project does not have a WQC, run of river operations are codified in the Exemption Order. As such, Standard 1 applies for this Zone of Effect.

4.2.2 Zone 2 - Carthage Mill (West End) Bypass Reach

Criterion	Standard	Supporting Information
B	**2** The facility is in compliance with all water quality conditions contained in a recent Water Quality Certification or in compliance with facility-specific science-based resource agency and, if applicable, science-based or indigenous knowledge-based tribal government recommendations, that provide reasonable assurance that water quality standards will be met for all waterbodies that are directly affected by the facility. Such recommendations, whether based on a generally applicable water quality standard or one that was developed on a site-specific basis, must include consideration of all water quality components necessary to preserve healthy fish and wildlife populations, human uses, and recreation	**Resource Agency and Tribal Government Recommendation:** • Provide a copy of the most recent state and, if applicable, Tribal Water Quality Certificate and any subsequent amendments, including the date(s) of issuance. If more than 10 years old, provide documentation that the certification terms and conditions remain valid and in effect for the facility (e.g., a confirmation letter or email from the resource agency or Tribal Nation). • Identify any other agency recommendations related to water quality and explain their scientific or technical basis. • Identify any tribal government recommendations and explain their scientific or indigenous knowledge basis. • Describe all compliance requirements and activities related to water quality including on-going monitoring, and how those are integrated into facility operations and reported to resource agencies, tribal governments, and FERC, as applicable..

Recent water quality monitoring has not been conducted for this section of the Black River. However, the downstream Herrrings Development, located approximately 3 miles downstream and part of the Black River Project (FERC No. 2569), has recently undergone relicensing. The results of the relicensing studies indicated that water quality standards for Class C waters for DO were met at the Herrings Development with DO ranging from 6.03 mg/L in July to 11.69 mg/L in April. Upstream continuous temperature ranged from 8.9 °C in April to 25.8°C in July (Erie Boulevard Hydro LP, 2024).

This section of the Black River is not likely impaired as it is not listed on NYSDEC's 2020 305(b) report and 303(d) list (NYSDEC, 2022).

Any deviations from run-of-river operations and minimum flows at the Project are reported to FERC.

While the Project does not have a WQC, it is operated in accordance with agency recommendations for minimum flows, as discussed above, and run of river operations are codified in the Exemption Order. As

such, Standard 2 applies for this Zone of Effect.

4.2.3 Zone 3 and 4 - Carthage Mill (West End) Project Tailrace/Downstream Regulated River Reach

Criterion	Standard	Supporting Information
B	**1** The facility does not alter the physical, chemical, or biotic water characteristics necessary to support fish and wildlife resources or human water uses (e.g., water supply or recreation) in the applicable Zone of Effect	**Not Applicable / De Minimis Effect:** • The Project is operated in run-of-river mode passing inflows as outflows via the spillway and powerhouse. There are no water quality issues or impairments in this reach

As discussed above, the reach of the of the Black River below the Project dam and powerhouse was monitored as part of relicensing efforts and all designated uses were deemed to have been met. No impairments were identified for this reach of the Black River in the 2022 303(b) Report (NYSDEC, 2022), as discussed above. While not affecting water quality conditions in the reach directly, the Black River PCBs Superfund site is currently delineated as a three mile stretch of the Black River beginning just below the Carthage Mill (West End) dam and extending downstream to the Herrings Project having PCB-contaminated sediment attributable to historical local industries including tanneries and paper mills, operating since the 1890s (EPA, 2025).

While the downstream regulated river reach is devoid of structures, flows in this reach are influenced by hydroelectric operations including by the Project and by facilities other than the Project. However, all of these facilities, including both the Carthage Mill (West End) and Long Falls Projects, operate in run-of-river mode with bypass reach minimum flows, so inflows are passed downstream without ponding to this Zone of Effect. Any deviations from run-of-river operations and minimum flows at the Project are reported to FERC.

While the Project does not have a WQC, it is operated in accordance with agency recommendations for minimum flows and run of river operations are codified in the Exemption Order. As such, Standard 2 applies for these Zones of Effect.

4.3 Upstream Fish Passage

The stated Low Impact Hydropower Institute goal for Criterion C – Upstream Fish Passage is "The facility allows for the safe, timely, and effective upstream passage of migratory fish to ensure that migratory species can successfully complete their life cycles and maintain healthy populations in areas affected by the facility."

As there are no migratory species in the project vicinity, and barriers to migration exist well downstream of the Project, the standard for "Upstream Fish Passage" is discussed collectively for all Zones of Effect.

4.3.1 All Zones – Carthage Mill (West End) Impoundment, Bypass Reach, Tailwater and Downstream Regulated River Reach

Criterion	Standard	Supporting Information
C	**1** The applicable Zone of Effect does not create a barrier to upstream passage, or there are no migratory fish in the vicinity of the facility. If such species were present historically, the facility did not contribute to the extirpation of such species	**Not Applicable / De Minimis Effect:** • Explain why the facility does not impose a barrier to upstream fish passage in the designated ZoE. Typically, impoundment zones will qualify for this standard since once above a dam and in an impoundment, there is no additional facility barrier to further upstream movement. • Provide available fish distribution data showing the absence of migratory fish species in each ZoE. • If migratory fish species have been extirpated from the facility area, explain why the facility is not or was not the cause of the extirpation

There are no anadromous or catadromous species in the vicinity of the project area. The lower river was originally developed to provide mechanical power for mills with the dams of the lower Black River Project constructed or converted to hydroelectric power in the early 1920s (Erie Boulevard Hydro, LP, 2024) and the Carthage Mill (West End) Dam was originally constructed in the early 1900s to support the adjacent paper company. The Project does not currently have a dedicated upstream fish passage facility, nor do projects downstream of the Carthage Mill (West End) Project.

The lower portion of the Black River, particularly the reach immediately below the Carthage Mill (West End) dam, was sampled in 1988 as part of the relicensing of the Herrings Development of the Black River (FERC No. 2589) Project. During that study effort, seventeen species were collected with the predominant species was pumpkinseed (19.6% relative abundance), smallmouth bass (18.7% relative

abundance), golden shiner (14% relative abundance), yellow perch (10.2% relatively abundance), rock bass (9.6% relative abundance), chain pickerel (8.8% relative abundance) and walleye (8.0% relative abundance) (Beak, 1989 as reported in Erie Boulevard Hydro, LP, 2024).

The American Eel (Anguilla rostrata), while documented from the lowest portion of the river nearest the mouth, is considered nearly extirpated from the system (Bergmann Associates 2010). While dams have historically presented barriers to migration for eel, the abundance of dams, locks and other barriers downstream of the Project have been the predominant influence on eel populations.

4.4 Downstream Fish Passage

The stated Low Impact Hydropower Institute goal for Criterion D – Downstream Fish Passage is "The facility allows for the safe, timely, and effective downstream passage of migratory fish. For riverine (resident) fish, including resident potamodromous fish, the facility minimizes loss of fish from impoundments and upstream river reaches affected by facility operations. Migratory species can successfully complete their life cycles and maintain healthy populations in the areas affected by the facility."

Downstream fish passage for resident species is available at the Carthage Mill (West End) Project via the sluice and minimum flow notches (i.e., surface bypasses), discussed in greater detail in Section 4.1.

As there are no migratory species in the project vicinity, and barriers to migration exist well downstream of the Project, the standard for "Downstream Fish Passage" are the same for all Zones of Effect. The Project has no downstream fish passage facilities.

4.4.1 Zone 1 – Carthage Mill (West End) Impoundment

Criterion	Standard	Supporting Information
D	**1** The applicable Zone of Effect does not create a barrier to downstream passage, or there are no fish present at the facility that require downstream passage to complete their life cycle. If such species were present historically, the facility did not contribute to the extirpation of them and the facility does not contribute adversely to riverine fish populations or to their access to habitat necessary for the completion of their life cycles.	**Not Applicable/De Minimis Effect**: • Explain why the facility does not impose a barrier to downstream fish passage in the designated ZoE, considering both physical obstruction and increased mortality relative to natural downstream movement (e.g., entrainment into hydropower turbines). Typically, tailwater/downstream zones will qualify for this standard since below a dam and powerhouse there is no additional facility barrier to further downstream movement. • Bypassed reach zones must demonstrate that flows in the reach are adequate to support safe, effective, and timely downstream migration. • For riverine fish populations that are known to move downstream, explain why the facility in the designated ZoE does not contribute adversely to the species populations or to their access to habitat necessary for successful completion of their life cycles; or • Document available fish distribution data and the lack of fish species requiring passage in the ZoE; or • If migratory fish species have been extirpated from the area, explain why the facility is not or was not the cause of the extirpation

Only resident species persist in reach of the Black River that includes the project impoundment as discussed above (Erie Boulevard Hydro, LP, 2024). The Carthage Mill (West End) impoundment is surrounded by water retaining structures. The impoundment is formed by the Carthage Mill (West End) dam and the Long Falls Dam and backwaters to the Tannery Island Dam and the Carthage PMM Dam. Although the dams are operated in run of river mode, the impoundment is very small and heavily regulated. Resident species would not be anticipated in this reach in significant numbers. Entry into the impoundment would occur via spill, minimum flow weirs/notches, and/or gate operations from the Tannery Island and/or Carthage PMM dams. Egress from the impoundment is provided via dam spill and minimum flow weirs/notches, and/or gate operations, into the bypass reach.

4.4.2 Zone 2 – Carthage Mill (West End) Bypass Reach

Criterion	Standard	Supporting Information
D	**1** The applicable Zone of Effect does not create a barrier to downstream passage, or there are no fish present at the facility that require downstream passage to complete their life cycle. If such species were present historically, the facility did not contribute to the extirpation of them and the facility does not contribute adversely to riverine fish populations or to their access to habitat necessary for the completion of their life cycles.	**Not Applicable/De Minimis Effect**: • Explain why the facility does not impose a barrier to downstream fish passage in the designated ZoE, considering both physical obstruction and increased mortality relative to natural downstream movement (e.g., entrainment into hydropower turbines). Typically, tailwater/downstream zones will qualify for this standard since below a dam and powerhouse there is no additional facility barrier to further downstream movement. • Bypassed reach zones must demonstrate that flows in the reach are adequate to support safe, effective, and timely downstream migration. • For riverine fish populations that are known to move downstream, explain why the facility in the designated ZoE does not contribute adversely to the species populations or to their access to habitat necessary for successful completion of their life cycles; or • Document available fish distribution data and the lack of fish species requiring passage in the ZoE; or • If migratory fish species have been extirpated from the area, explain why the facility is not or was not the cause of the extirpation

This Zone of Effect is unimpeded from the Carthage Mill (West End) dam for approximately 3 miles to the Herrings Dam. This section consists of channelized riffle-run habitat extending approximately 0.45 miles from the apex of the Long Falls and Carthage Mill (West End) dams to the confluence of the tailraces of the Long Falls and Carthage Mill (West End) powerhouses. Ingress into the bypass reach from the impoundment is provided via dam spill and minimum flow weirs/notches, and/or gate operations at both the Long Falls and Carthage Mill (West End) dams. As discussed above, there are no migratory species in this reach of the Black River.

4.4.3 Zones 3 and 4 – Carthage Mill (West End) Project Tailrace and Downstream Regulated River Reach

Criterion	Standard	Supporting Information
D	**1** The applicable Zone of Effect does not create a barrier to downstream passage, or there are no fish present at the facility that require downstream passage to complete their life cycle. If such species were present historically, the facility did not contribute to the extirpation of them and the facility does not contribute adversely to riverine fish populations or to their access to habitat necessary for the completion of their life cycles.	**Not Applicable / De Minimis Effect**: • Explain why the facility does not impose a barrier to downstream fish passage in the designated ZoE, considering both physical obstruction and increased mortality relative to natural downstream movement (e.g., entrainment into hydropower turbines). Typically, tailwater/downstream zones will qualify for this standard since below a dam and powerhouse there is no additional facility barrier to further downstream movement. • Bypassed reach zones must demonstrate that flows in the reach are adequate to support safe, effective, and timely downstream migration. • For riverine fish populations that are known to move downstream, explain why the facility in the designated ZoE does not contribute adversely to the species populations or to their access to habitat necessary for successful completion of their life cycles; or • Document available fish distribution data and the lack of fish species requiring passage in the ZoE; or • If migratory fish species have been extirpated from the area, explain why the facility is not or was not the cause of the extirpation

These Zones of Effect are unimpeded from the Carthage Mill (West End) dam for approximately 3 miles to the Herrings Dam. As discussed above, there are no migratory species in this reach of the Black River.

4.5 Shorelines and Watershed

The stated Low Impact Hydropower Institute goal for Criterion E – Shoreline and Watershed Protection is "The facility has demonstrated that sufficient action has been taken to protect, mitigate or enhance the condition of soils, vegetation, and ecosystem functions on shoreline and watershed lands associated with the facility."

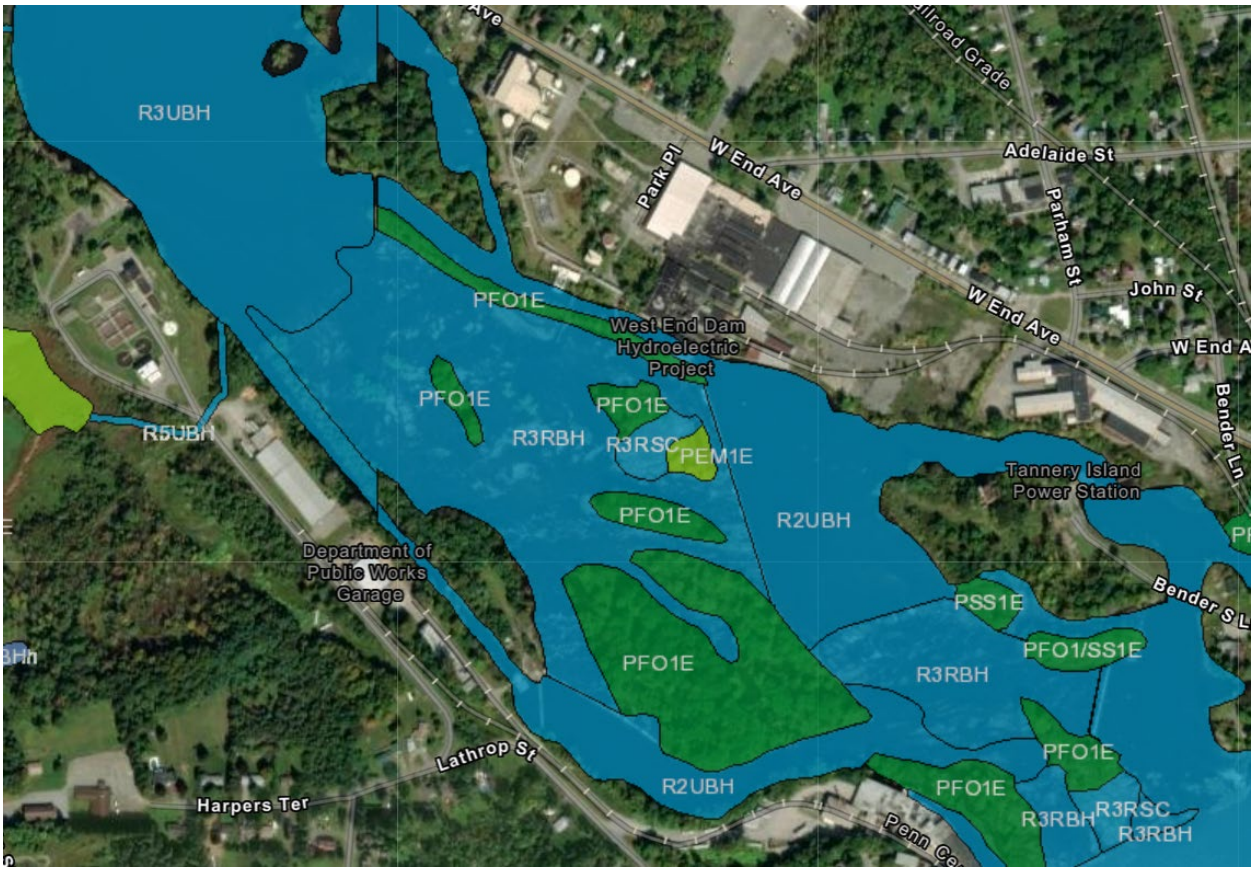
The project boundary includes the waters of the impoundment and the mostly inundated lands of a portion of the impoundment and bypass reach. The Project effectively has no uplands within the project area. As such, this standard is discussed collectively for all Zones of Effect.

There are no significant natural communities, special protection areas, or unique geological features identified for this section of the Black River (NYSDEC, 2025a).

Wetlands within and immediately adjacent to the project boundary are shown in Figure 7. The dominant wetland type is Freshwater Forested/Shrub Wetlands (PFO1E): This wetland system is dominated by trees, shrubs, persistent emergents, and emergent mosses or lichens characterized by woody vegetation that is 6 m tall or taller having relatively wide, flat leaves that are shed during the cold or dry season; e.g., black ash (*Fraxinus nigra*). Surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is variable, extending from saturated to the surface to a water table well below the ground surface (USFWS, 2025b).

One small Freshwater Emergent Wetland (PEM1E) is located in the bypass reach. The Freshwater Emergent Wetland Class is dominated by trees, shrubs, persistent emergents, characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens and usually not dominated by perennial plants. This vegetation is present for most of the growing season in most years. These wetlands are seasonally flooded/saturated with surface water present for extended periods (generally for more than a month) during the growing season. Outside of the growing season, surface water tends to be absent but the substrate typically remains saturated at or near the surface (USFWS, 2025b).

Figure 9. Wetlands within and surrounding the Project Area



USFWS, 2025b

4.5.1 All Zones – Carthage Mill (West End) Project Impoundment, Bypass Reach, Tailrace and Downstream Regulated River Reach

Criterion	Standard	Supporting Information
E	**1** There are no lands associated with the facility under the direct or indirect ownership or control of the facility owner that have been identified as having significant ecological value for protecting water quality, aesthetics, or low-impact recreation, and the facility is not subject to any Shoreline Management Plan (SMP) or similar protection plan.	**Not Applicable/De Minimis Effect** • 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 FERC project or facility boundary, and absence of critical habitat for protected species). • Document that there have been no Shoreline Management Plans or similar protection requirements for the facility

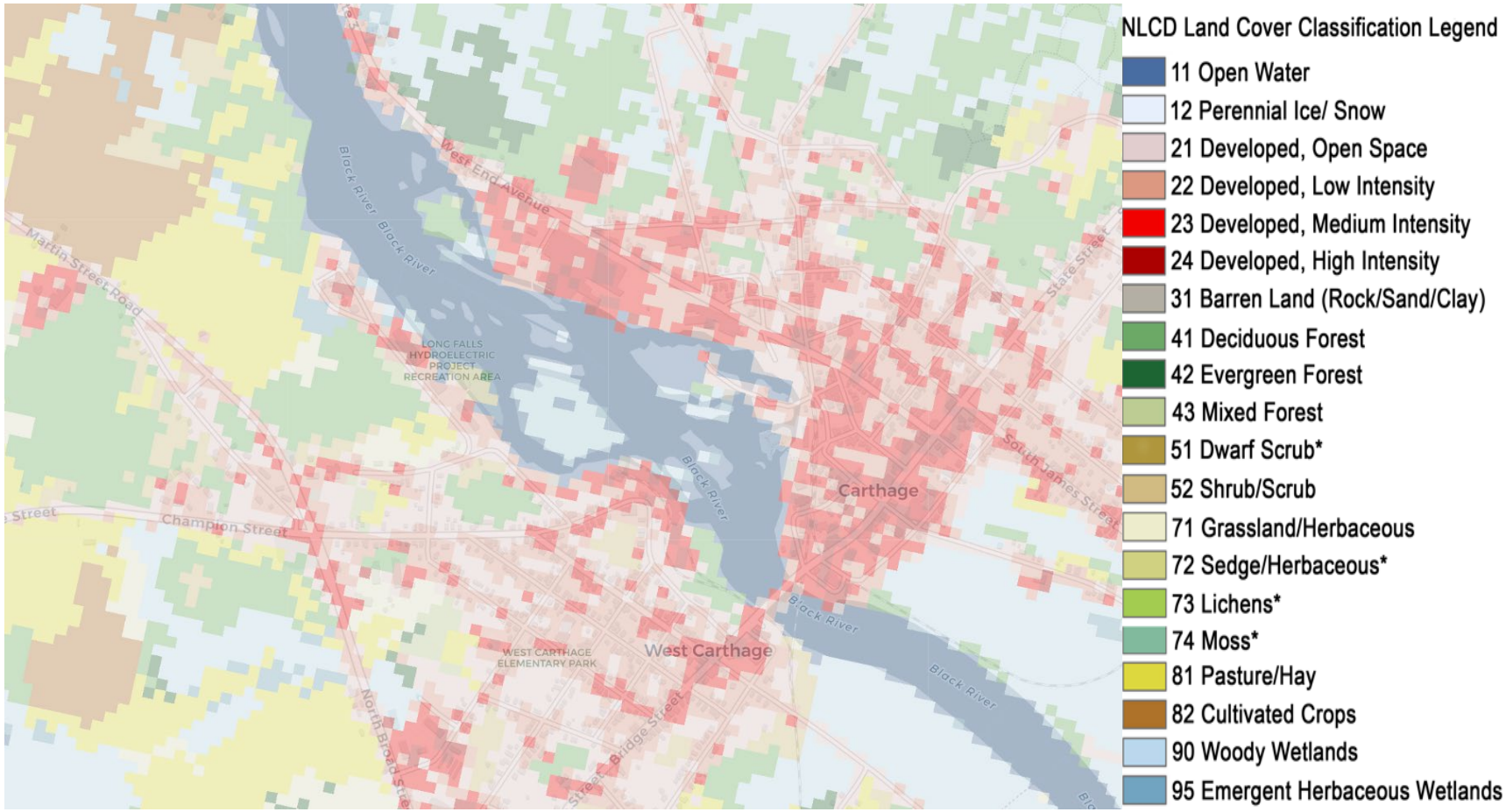
The current project boundary encloses the dam and powerhouse and follows the reservoir up to the full pond elevation (see Exhibit G in Figure 1). There are no shoreline lands along the impoundment and lands within the project boundary below the project dam are inundated. A small parcel of uplands along the retaining wall the separates the bypass reach from the tailrace is vegetated, consisting of grass and underbrush exists on the sides of the tailrace channel. The sides of the tailrace are steep and for the most part, barren rock (Crown Zellerbach Corporation, 1981).

Several state laws and local regulations are designed to manage land development in the vicinity of the Project area in accordance with certain objectives. Any development or ground disturbance on private lands adjacent to the Project requires the appropriate permits and must adhere to the design and development standards of the appropriate town zoning regulations. The Project is not required to have a Shoreline Management Plan, pursuant to its FERC Exemption.

As shown below in Figure 7, lands surrounding the project boundary are largely the developed areas of adjacent municipalities, road networks, and commercial sites. Some forested areas exist to the north and south of the project boundary, but they are generally managed lands and are bifurcated by roads and development.

Run of river operations are supportive of wetlands persistence as a result of stable headpond elevations, minimum bypass reach flows and inflows passed as outflows which mimic the natural hydrograph.

Figure 10. Land Cover Types of Adjacent Lands



Source: CUGIS, 2016

4.6 Threatened and Endangered Species

The Low Impact Hydropower Institute goal for Criterion F – Threatened and Endangered Species Protection is, "The facility does not negatively impact federal or state listed species, or tribal trust species."

An Information for Planning and Consultation (IPaC) report and USFWS Official Species List were developed for the Project. Only Indiana Bat and Northern Long Eared Bat were identified (USFWS, 2025a). No other state listed species were identified within the project vicinity (NYSDEC, 2025a).

Indiana (Federally and State Endangered) and Northern Long- Eared Bat (NLEB) (Federally and State Endangered) may be affected by vegetation management activities, but these are non-existent at the Project which has no uplands under management. Further, a Voluntary Environmental Review Process for Development Projectshas been published for activities that may affect NLEB for streamlined consultation.

The discussion of the effects of the Project on listed species, and the applicable standards, do not vary by significantly by species, and are generally consistent within the Zones of Effect. As such, this Criterion is discussed by species collectively for all Zones of Effect.

4.6.1 All Zones – Carthage Mill (West End) Project Impoundment, Bypass Reach, Tailrace and Downstream Regulated River Reach

Criterion	Standard	Supporting Information
F	**1** There are no listed or tribal trust species documented to be present in the vicinity of the applicable Zone of Effect, and the facility was not responsible for the extirpation of such species that historically were present	**Not Applicable / De Minimis Effect:** • Document that there are no listed or tribal trust species in the designated ZoE; or • If listed or trust species are known to have existed in the facility area in the past but are not currently present, explain why the facility was not the cause of the extirpation of such species. • If the facility is making significant efforts to reintroduce an extirpated species, describe the actions that are being taken.

As discussed above, there are effectively no uplands within the project boundary that would impact listed bat species. Routine Project operations are not anticipated to affect terrestrial species. No listed aquatic species are identified as occurring within the project boundary. Run-of-river operations ensures

stable headpond elevations for the support of aquatic species, such as mussels, which would not be anticipated in the bypass reach or tailrace due to high velocities. Mussels may be present in reaches downstream as part of the regulated river reach Zone of Effect, and this reach benefits from run-of-river operations which mimic the natural hydrologic regime.

4.7 Cultural and Historic Resources

The stated Low Impact Hydropower Institute goal for Criterion G – Cultural and Historic Resource Protection is "The facility does not adversely impact cultural or historic resources associated with the facility's lands and waters, including archaeological sites, historic era sites, traditional cultural landscapes, traditional cultural properties, and other tribal trust resources."

Given the limited extent of the project boundary, the lack of uplands, and that project structures are not listed on the NRHP, this standard is discussed collectively for all Zones of Effect.

4.7.1 All Zones – Carthage Mill (West End) Project Impoundment, Bypass Reach, Tailrace, and Downstream Regulated River Reach

Criterion	Standard	Supporting Information
G	**1** The facility is in compliance with approved state, federal, and recognized tribal plans for protection, enhancement, or mitigation of impacts to cultural or historic resources affected by the facility.	**Not Applicable / De Minimis Effect:** • Document that there are no federal or state recognized Tribal interests, cultural or historic resources, traditional cultural properties, traditional cultural landscapes or other tribal trust resources associated with facility lands or waters within the designated ZoE that can be affected by construction or operations of the facility; or • Document that the facility construction and operations have not in the past, nor currently adversely affect any such resources that are present on facility lands in the designated ZoE; and • Provide a letter from the state historic preservation office (SHPO) and tribal historic preservation offices (THPOs) or affected tribal government that confirms no effect (this may be newly obtained or issued during a prior FERC licensing or exemption, or other formal proceeding).

While no documented archaeological or historic sites exist within the project boundary, which includes effectively no uplands, project-related effects on cultural resources can result from modifications to

project facilities or project operations; project-related ground-disturbing activities; project-induced shoreline erosion; and vandalism. Stable headpond elevations ensure limited shoreline erosion along the project impoundment within Zone 1 and run-of-river operations mimic the natural hydrograph to which reaches downstream of the Project dam have become adapted within Zones 2, 3 and 4.

A CRIS inquiry has been submitted to the New York State Historic Preservation Office (SHPO) (NYS, 2025b). The submission has not been accepted or reviewed by the SHPO to date.

4.8 Recreational, Public and Traditional Cultural Resources

The stated Low Impact Hydropower Institute goal for Criterion H – Recreation Resources is "The facility accommodates recreational activities on lands and waters controlled by the facility; and provides recreational, public, and traditional cultural access to its associated lands and waters without fee or charge."

4.8.1 Zone 1 - Carthage Mill (West End) Impoundment

Criterion	Standard	Supporting Information
H	**1** The facility in the applicable Zone of Effect does not occupy lands or waters to which the public or tribal members can be granted safe access and does not otherwise impact recreational opportunities in the vicinity.	**Not Applicable / De Minimis Effect:** • Document that the facility does not occupy lands or waters in the designated ZoE to which public or Tribal member access can be safely granted, and that the facility does not otherwise impact recreational or access opportunities in the facility area.

There are no project recreation facilities on project lands nor access to project waters of the impoundment for safety reasons. The impoundment is surrounded by dam and powerhouse infrastructure and is quite small, making recreation somewhat impractical and largely unsafe. The northern shoreline of the impoundment is entirely occupied by industrial development, as is the southern shoreline. Informal egress to the impoundment could be gained via Tannery Island, along the western boundary of the impoundment, which is accessible by public ways. Recreation sites in proximity to the Project are discussed in Section 1.4.5.

4.8.2 Zones 2, 3 and 4 - Carthage Mill (West End) Bypass Reach, Tailrace and Downstream Regulated River Reach

Criterion	Standard	Supporting Information

H	**1** The facility in the applicable Zone of Effect does not occupy lands or waters to which the public or tribal members can be granted safe access and does not otherwise impact recreational opportunities in the vicinity.	**Not Applicable / De Minimis Effect:** • Document that the facility does not occupy lands or waters in the designated ZoE to which public or Tribal member access can be safely granted, and that the facility does not otherwise impact recreational or access opportunities in the facility area.

Access to the bypass reach and tailrace and the downstream regulated river reach is provided via the West Carthage boat launch. This launch includes a courtesy dock and hard top boat launch as well as parking.

5.0 ATTESTATION AND WAIVER FORM

All applications for LIHI Certification must include the following sworn statement before they can be reviewed by LIHI:

SWORN STATEMENT

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

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

The Undersigned further acknowledges that if LIHI Certification of the applying facility is granted, the LIHI Certification Mark License Agreement must be executed prior to marketing the electricity product as LIHI Certified® (which includes selling RECs in a market that requires LIHI Certification).

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

Company Name: Relevate Power

Authorized Representative:

Name: Kelly Maloney

Title: VP, Regulatory Compliance

Signature:

Date:

6.0 CONTACTS FORM

6.1 Applicant Related Contacts

Facility Owner: Northbrook Carthage, LLC	
Name and Title	Kelly Maloney, VP, Regulatory Compliance
Company	Relevate Power
Phone	207-233-1995
Email Address	Kelly.maloney@relevatepower.com
Mailing Address	230 Park Ave, Suite 447, New York, NY 10169
Facility Operator (if different from Owner):	
Name and Title	
Company	
Phone	
Email Address	
Mailing Address	
Consulting Firm / Agent for LIHI Program (if different from above):	
Name and Title	
Company	
Phone	
Email Address	
Mailing Address	
Compliance Contact (responsible for LIHI Program requirements):	
Name and Title	Allison Frechette, Manager, Compliance
Company	Relevate Power
Phone	(207) 320-1440
Email Address	af@relevatepower.com
Mailing Address	PO Box 1086, Wilton, ME 04292
Party responsible for accounts payable:	
Name and Title	Monte Kaiser
Company	Relevate Power
Phone	(303) 615-3103
Email Address	monte@relevatepower.com
Mailing Address	230 Park Ave, Suite 447, New York, NY 10169

6.2 Federal, State and Local Resource Agency Contacts

Agency Contact (Check areas of responsibility: Flows__, Water Quality _x_, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	New York Department of Environmental Services
Name and Title	Jessica Hart, Region 6
Phone	(315) 785-2246
Email address	Jessica.hart@dec.ny.gov
Mailing Address	317 Washington St, Watertown, NY 13601
Agency Contact (Check areas of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources _x_, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation __):	
Agency Name	New York Department of Environmental Services
Name and Title	Jana Lantry, Aquatic Biologist Region 6 Fisheries Manager, Division of Fish and Wildlife
Phone	(315) 785-2258
Email address	jana.lantry@dec.ny.gov
Mailing Address	317 Washington St, Watertown, NY 13601
Agency Contact (Check areas of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources _x_, Recreation __):	
Agency Name	New York State Office of Parks, Recreation and Historic Preservation
Name and Title	Daniel Mackay, Deputy Commissioner
Phone	518-268-2171
Email address	Daniel.Mackay@parks.ny.gov
Mailing Address	PP Box 189, Waterford, NY 12188
Agency Contact (Check areas of responsibility: Flows__, Water Quality __, Fish/Wildlife Resources __, Watersheds __, T/E Spp. __, Cultural/Historic Resources __, Recreation _x__):	
Agency Name	U.S. National Park Service
Name and Title	Kevin Mendik, ESQ. NPS Hydro Program Coordinator
Phone	617-223-5299
Email address	kevin_mendik@NPS.gov
Mailing Address	15 State Street 10th floor, Boston, Massachusetts 02109
Agency Contact (Check areas of responsibility: Flows_x_, Water Quality __, Fish/Wildlife Resources _x_, Watersheds _x_, T/E Spp. _x_, Cultural/Historic Resources __, Recreation __):	
Agency Name	U.S. Fish and Wildlife Service
Name and Title	Arianna Ramirez
Phone	
Email address	arianna_ramirez@fws.gov
Mailing Address	3817 Luker Rd, Cortland, NY 13045

6.3 Tribal Government and Tribal Agency Contacts

Agency Contact (Check areas of responsibility: Flows_x_, Water Quality __, Fish/Wildlife Resources _x_, Watersheds _x_, T/E Spp. _x_, Cultural/Historic Resources X__, Recreation __):	
Tribe/Agency Name	U.S. Bureau of Indian Affairs
Name and Title	Harold Peterson
Phone	(615) 564-6838
Email address	Harold.peterson@bia.gov
Mailing Address	Eastern Regional Office, 545 Marriott Dr, Suite 700, Nashville, TN 37214
Agency Contact (Check areas of responsibility: Flows_x_, Water Quality __, Fish/Wildlife Resources _x_, Watersheds _x_, T/E Spp. _x_, Cultural/Historic Resources X__, Recreation __):	
Tribe/Agency Name	Cayuga Nation of New York
Name and Title	Clinton Halftown, Nation Representative
Phone	(315) 568-0750
Email address	
Mailing Address	2540 State Route 89, PO Box 803, Seneca Falls, NY 13148
Agency Contact (Check areas of responsibility: Flows_x_, Water Quality __, Fish/Wildlife Resources _x_, Watersheds _x_, T/E Spp. _x_, Cultural/Historic Resources X__, Recreation __):	
Tribe/Agency Name	Delaware Tribe Historic Preservation Office
Name and Title	Susan Bachor, Historic Preservation Representative
Phone	(539) 529-1671
Email address	sbachor@delawaretribe.org
Mailing Address	126 University Circle, Stroud Hall Rm 437, East Stroudsburg, PA 18301
Agency Contact (Check areas of responsibility: Flows_x_, Water Quality __, Fish/Wildlife Resources _x_, Watersheds _x_, T/E Spp. _x_, Cultural/Historic Resources X__, Recreation __):	
Tribe/Agency Name	Mohawk Nation Council of Chiefs
Name and Title	
Phone	
Email address	
Mailing Address	346 NY-37, Akwesasne, NY 13655
Agency Contact (Check areas of responsibility: Flows_x_, Water Quality __, Fish/Wildlife Resources _x_, Watersheds _x_, T/E Spp. _x_, Cultural/Historic Resources X__, Recreation __):	
Tribe/Agency Name	Seneca Nation of Indians
Name and Title	David Shongo, THPO
Phone	(716) 945-1790
Email address	David.Shongo@sni.org
Mailing Address	90 Ohi:yo' Way Allegany Territory Salamanca, NY 14779
Agency Contact (Check areas of responsibility: Flows_x_, Water Quality __, Fish/Wildlife Resources _x_, Watersheds _x_, T/E Spp. _x_, Cultural/Historic Resources X__, Recreation __):	
Tribe/Agency Name	Oneida Indian Nation
Name and Title	Ray Halbritter, Nation Representative
Phone	(315) 829-8900
Email address	
Mailing Address	2037 Dream Catcher Plaza, Oneida, NY 13421

Agency Contact (Check areas of responsibility: Flows_x_, Water Quality __, Fish/Wildlife Resources _x_, Watersheds _x_, T/E Spp. _x_, Cultural/Historic Resources X__, Recreation __):	
Tribe/Agency Name	Onondaga Nation of New York
Name and Title	Anthony Gonyea, THPO
Phone	(315) 469-0302
Email address	admin@onondaganation.org
Mailing Address	PO Box 319-B, Nedrow, NY 13120
Agency Contact (Check areas of responsibility: Flows_x_, Water Quality __, Fish/Wildlife Resources _x_, Watersheds _x_, T/E Spp. _x_, Cultural/Historic Resources X__, Recreation __):	
Tribe/Agency Name	Saint Regis Mohawk Tribe
Name and Title	Darren Bonaparte, THPO
Phone	(518) 358-2272
Email address	darren.bonaparte@srmt-nsn.gov
Mailing Address	71 Margaret Terrance Memorial Way Akwesasne, NY 13655
Agency Contact (Check areas of responsibility: Flows_x_, Water Quality __, Fish/Wildlife Resources _x_, Watersheds _x_, T/E Spp. _x_, Cultural/Historic Resources X__, Recreation __):	
Tribe/Agency Name	Office Onõhsagwë: De' Cultural Center, Seneca Nation
Name and Title	Dr. Joe Stahlman, THPO Director Tribal Historic Preservation
Phone	
Email address	
Mailing Address	82 W. Hetzel Street Salamanca, NY 14779
Agency Contact (Check areas of responsibility: Flows_x_, Water Quality __, Fish/Wildlife Resources _x_, Watersheds _x_, T/E Spp. _x_, Cultural/Historic Resources X__, Recreation __):	
Tribe/Agency Name	Seneca-Cayuga Nation
Name and Title	William Tarrant, THPO
Phone	(918) 787-5452
Email address	wtarrant@sctribe.com
Mailing Address	P.O. Box 453220 23701 S. 655 RD Grove, OK 74344
Agency Contact (Check areas of responsibility: Flows_x_, Water Quality __, Fish/Wildlife Resources _x_, Watersheds _x_, T/E Spp. _x_, Cultural/Historic Resources X__, Recreation __):	
Tribe/Agency Name	Shinnecock Indian Nation
Name and Title	Rainbow Chavie Director, Shinnecock Cultural Resources Department
Phone	
Email address	culturalresources@shinnecock.org
Mailing Address	P.O. Box 5006 Southampton, New York 11969
Agency Contact (Check areas of responsibility: Flows_x_, Water Quality __, Fish/Wildlife Resources _x_, Watersheds _x_, T/E Spp. _x_, Cultural/Historic Resources X__, Recreation __):	
Tribe/Agency Name	Stockbridge-Munsee Community Band of Mohican Indians
Name and Title	Jeff Bendremmer Tribal Historic Preservation Manager
Phone	(413) 884-6029
Email address	thpo@mohican-nsn.gov
Mailing Address	86 Spring Street Williamstown, MA 01267
Agency Contact (Check areas of responsibility: Flows_x_, Water Quality __, Fish/Wildlife Resources _x_, Watersheds _x_, T/E Spp. _x_, Cultural/Historic Resources X__, Recreation __):	

Tribe/Agency Name	Tonawanda Band of Seneca, Tonawanda Reservation Historical Society
Name and Title	Roger Hill, Chief
Phone	(585) 542-2481
Email address	
Mailing Address	P.O. Box 516,Basom, NY 14013
Agency Contact (Check areas of responsibility: Flows_x_, Water Quality __, Fish/Wildlife Resources _x_, Watersheds _x_, T/E Spp. _x_, Cultural/Historic Resources X__, Recreation __):	
Tribe/Agency Name	Tuscarora Nation of New York
Name and Title	Rene Rickard, Director Tuscarora Environment Office
Phone	
Email address	rrickard@hetf.org
Mailing Address	5226 Walmore Rd.Lewistown, NY 14092
Agency Contact (Check areas of responsibility: Flows_x_, Water Quality __, Fish/Wildlife Resources _x_, Watersheds _x_, T/E Spp. _x_, Cultural/Historic Resources X__, Recreation __):	
Tribe/Agency Name	Unkechaug Indian Nation
Name and Title	Harry Wallace, Chief
Phone	(631) 281-6464
Email address	
Mailing Address	207 Poospatuck Lane Mastic, NY 11950

6.4 Currently Engaged External Interested Party Contacts

Stakeholder Contact (Check areas of interest: Flows__, Water Quality __, Fish/Wildlife Resources _X_, Watersheds __, T/E Spp. __, Cultural/Historic Resources _, Recreation _X__):	
Stakeholder Organization	American Whitewater
Name and Title	Bob Nasdor, NE Stewardship Director
Email address	bob@americanwhitewater.org
Phone	
Mailing Address	365 Boston Post Road Suite 250 Sudbury, MA 01776
Stakeholder Contact (Check areas of interest: Flows_X_, Water Quality _X_, Fish/Wildlife Resources _X__, Watersheds _X__, T/E Spp. __, Cultural/Historic Resources __, Recreation _X__):	
Stakeholder Organization	Carthage, NY
Name and Title	Village Clerk
Phone	315-483-1060 Ext 1
Email address	ct@villageofcarthageny.gov
Mailing Address	120 S. Mechanic Street, Carthage NY 13619
Stakeholder Contact (Check areas of interest: Flows_X_, Water Quality _X_, Fish/Wildlife Resources _X__, Watersheds _X__, T/E Spp. __, Cultural/Historic Resources __, Recreation _X__):	
Stakeholder Organization	West Carthage, NY
Name and Title	Village Clerk
Phone	315-493-2552
Email address	vwcclerk@westelcom.com
Mailing Address	61 High Street, West Carthage, NY

7.0 FERC AND REGULATORY INFORMATION

Major exemption and compliance documents are provided in hyperlinks below.

7.1 FERC Exemption and Amendment Applications Orders

- Application for exemption of small hydro power project from licensing for Carthage Mill Hydro Generation Expansion Project under P-5800. December 21, 1981. Accession No: 198201060222. https://elibrary.ferc.gov/eLibrary/filedownload?fileid=018B9DC5-66E2-5005-8110-C31FAFC91712

- Order vacating grant by operation of law of exemptions from licensing of small hydroelectric projects of 5 Megawatts or Less re Hydro Development Group, Inc under P-4636. July 20, 1982. Accession No.: 19830721-0393. https://elibrary.ferc.gov/eLibrary/filedownload?fileid=018B7D4D-66E2-5005-8110-C31FAFC91712

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RELEVATE POWER

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233-1750
Division of Regulatory Affairs, Room 514

Henry G. Williams
Commissioner

February 24, 1987

Mr. Keith F. Corneau
SNC Hydro, Inc.
125 Wolf Road
Albany, NY 12205

Dear Mr. Corneau:

Re: FERC 5800 - West End Dam Project
Interim Flow Modification

The DEC has completed its review of SNC, Inc.'s proposal to reduce its minimum flow requirement of 600 CFS at the West End Dam (see letter of June 28, 1984, Miller to Corneau). Based upon our analysis of the 1986 streamflow study prepared by Barns & Williams, DEC agrees to the following release schedule at the West End Dam:

Channel 1 - 200 CFS will be provided from March 15 to May 15 to accommodate spawning opportunities of S. vitreum (walleye). At all other times, a flow of 91 CFS is required.

Channel 2 - 79 CFS at all times.

Channel 3 - 27 CFS at all times.

The above releases will be provided through independently operated release structures at locations in the dam designated by DEC. The final locations of the structures will be determined as soon as the West End station can gain control of river flows through the project area.

SNC, Inc. must understand that these are interim flows only and can be rescinded at any time. The final flow requirement would also be subject to the results of an evaluation of the contribution of flows that would be required from the Champion Paper site (FERC-4636) on the opposite side of the river. Should hydroelectric generation be reactivated at the Champion site, additional flow data may also be required from SNC, Inc. This data would include, but not be limited to: the establishment of cross-sectional transects in the three channels and the main river channel downstream of their juncture, subsurface and surface topography, velocity, and possibly some additional fish sampling (specific time periods or life stages). Final flow requirements would be established based upon the Department's evaluation of the results of the above mentioned data.

SNC, Inc. may institute interim flow reduction upon providing DEC written agreement to the above and guaranteeing that all resource needs will be met and that the aquatic resource will be adequately protected.

If I can be of further assistance, please contact me at 457-2224.

Sincerely,

Edward R. Miller
Associate Environmental Analyst

ERM/pm
cc: K. Plumb (FERC)
R. T. Hunt (FERC)
D. Shumway (FERC)
E. Abrams (FERC)
A. Sidoti (FERC-NY)
P. Hamilton (USFWS)
R. Vaas (NYSDEC)
File

bcc: B. Zeisel
G. Koch
L. Ollivett

USFWS IPaC Report

Endangered species

Listed species and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries).

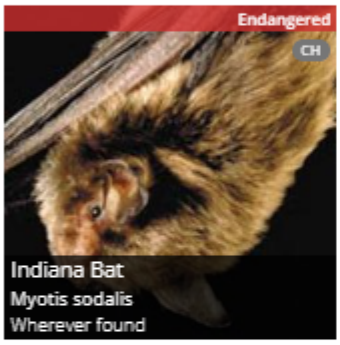
Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

Additional information on endangered species data is provided below.

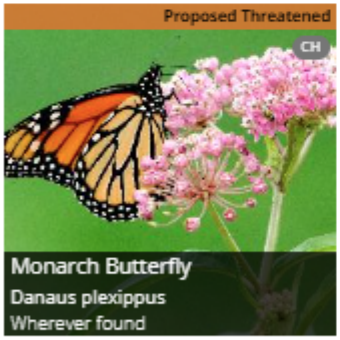
The following species are potentially affected by activities in this location:

THUMBNAILS LIST

Mammals



Insects



Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act (MBTA). Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

RELATED LINKS

Eagle Management

Measures for avoiding and minimizing impacts to birds

Nationwide avoidance and minimization measures for birds

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

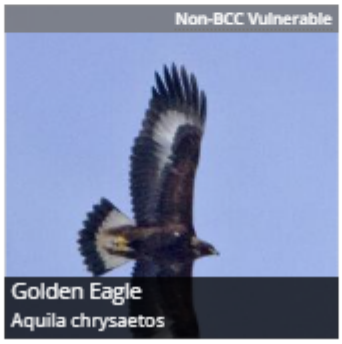
For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

THUMBNAILS | LIST

PROBABILITY OF PRESENCE SUMMARY



Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

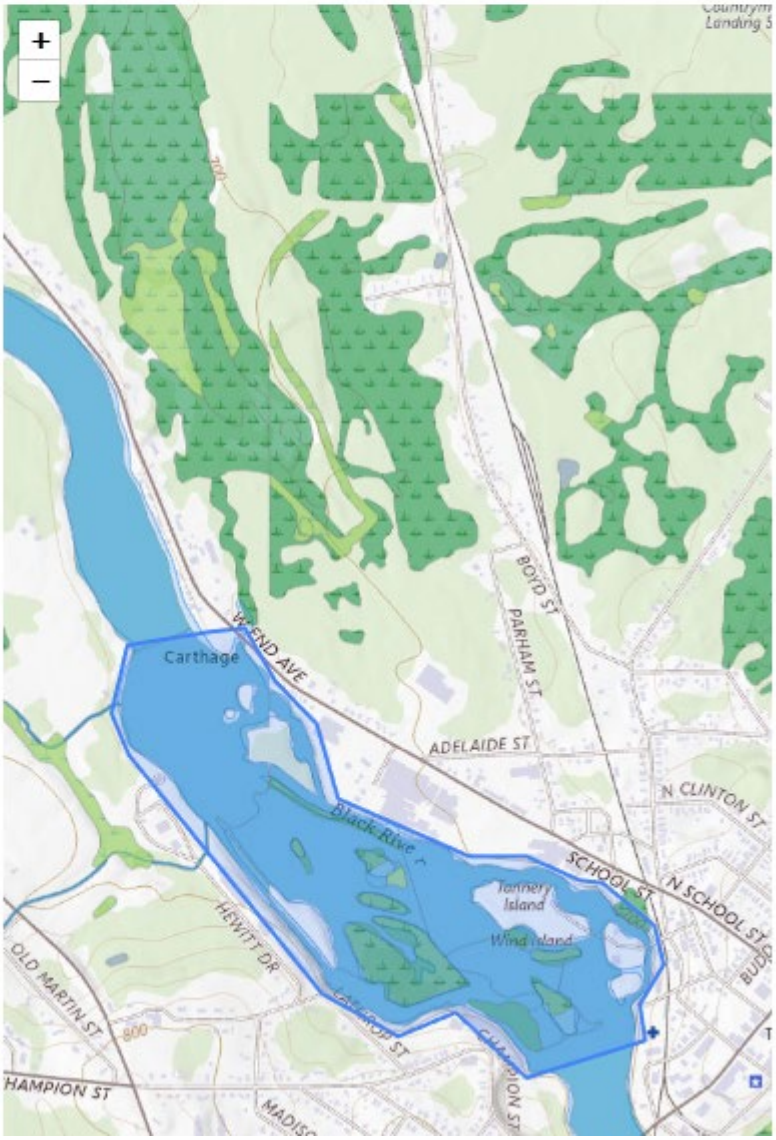
Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site. Other limitations, exclusions, and precautions are listed below.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND
- PEM1E

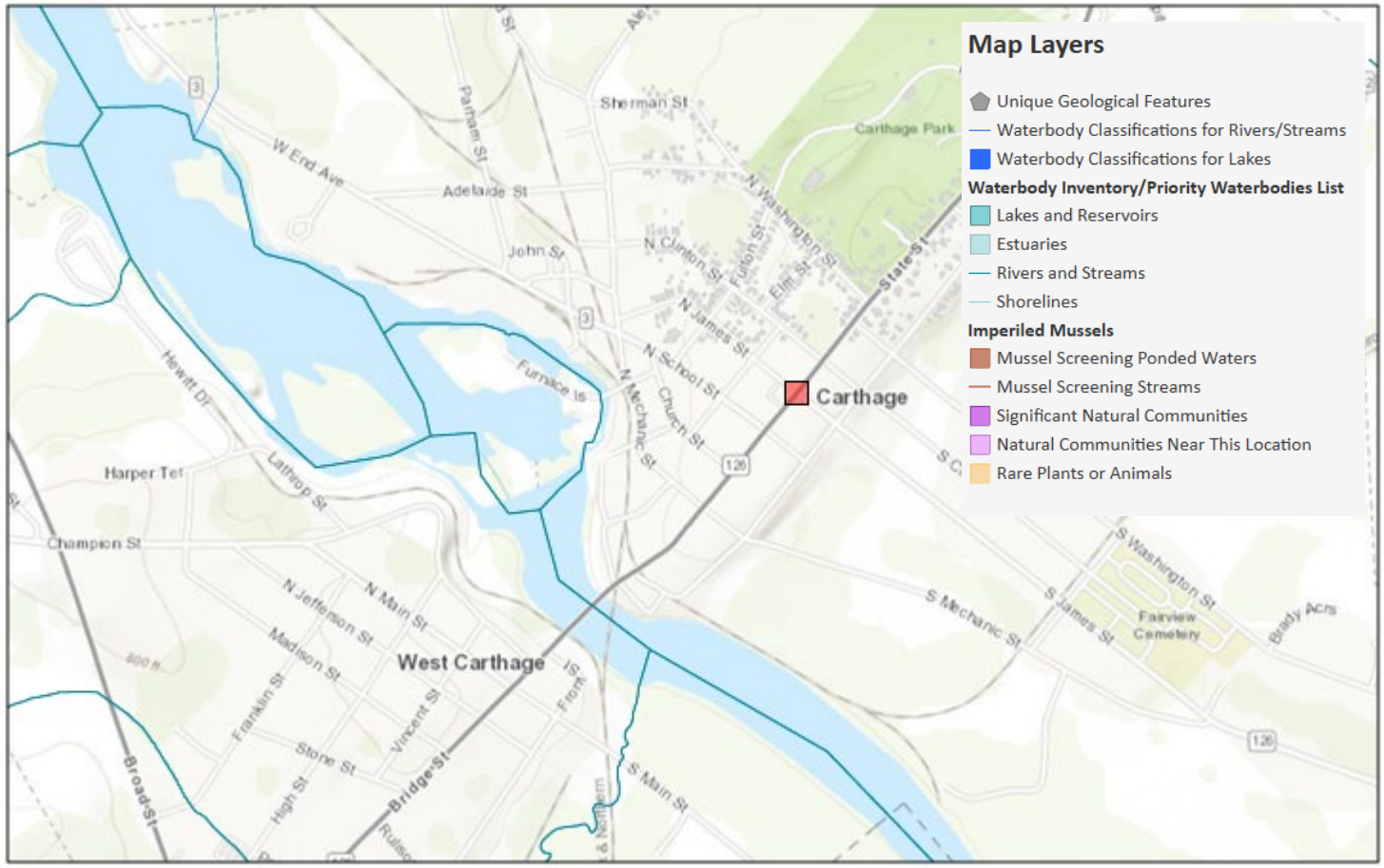
FRESHWATER FORESTED/SHRUB WETLAND
- PFO1E
- PFO1/SS1E
- PSS1E

RIVERINE
- R2UBH
- R3UBH
- R3RBH
- R3RSC
- R5UBH



NYSDEC Environmental Resource Mapper

Environmental Resource Mapper



October 31, 2025

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