



RIVER FALLS MUNICIPAL UTILITIES
ADDRESS 222 Lewis Street, River Falls, WI 54022
PHONE 715-425-0906
FAX 715-425-7217
WEBSITE www.rfmu.org

August 26, 2021

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

**RE: River Falls Hydroelectric Project, FERC No. P-10489
Final License Application**

Dear Secretary Bose,

Pursuant to the Federal Energy Regulatory Commission (FERC or Commission) regulations at 18 CFR §5.17, the City of River Falls Municipal Utilities (RFMU or Licensee) is submitting its Final License Application for filing with the FERC for the River Falls Hydroelectric Project (FERC No. 10489). The current license for the River Falls Hydroelectric Project expires on August 31, 2023. RFMU is providing a copy of the Final License Application to appropriate federal and state agencies, Tribes, local governments, and members of the public interested in the proceeding, as set forth on the attached distribution list.

The Final License Application includes the following documents:

- Initial Statement
- Exhibit A – Project Description
- Exhibit E – Environmental Report
- Exhibit F – General Design Drawings and Supporting Design Report
(CEII - filed under separate cover)
- Exhibit G – Project Map

If there are any questions or comments regarding the Final License Application, please contact Kevin Westhuis at (715) 426-3442, or by email at kwesthuis@rfcity.org.

Kimberly D. Bose, Secretary
August 26, 2021

Sincerely,

A handwritten signature in black ink that reads "Kevin Westhuis". The signature is written in a cursive style with a prominent loop at the end.

Kevin Westhuis
Utility Director
City of River Falls Municipal Utilities
222 Lewis Street
River Falls, WI 54022

cc: River Falls Hydroelectric Project Relicensing Interested Parties Mailing List
Shana Wiseman, FERC
Lesley Brotkowski, Kleinschmidt Associates
Angela Whelpley, TRC

CERTIFICATE OF SERVICE
RIVER FALLS HYDROELECTRIC PROJECT, FERC No. 10489

I, Kevin Westhuis, Utility Director, City of River Falls Municipal Utilities, hereby certify that copies of the foregoing document have been transmitted to the following parties.



Kevin Westhuis
Utility Director
City of River Falls Municipal Utilities

August 26, 2021

One copy, eFile to:

Ms. Kimberly D. Bose
Federal Energy Regulatory Commission
888 First Street N.E.
Washington, DC 20426

Via email, hard copy, or compact disc, regular mail, postage paid to:

Federal Agencies

FERC Coordinator
U.S. Army Corps of Engineers
St. Paul District
180 5th Street East, Suite 700
Saint Paul, MN 55101-1638

Daniel Munson
Regulatory Project Manager
U.S. Army Corps of Engineers
St. Paul District
180 5th Street East, Suite 700
Saint Paul, MN 55101

BIA - Midwest Regional Office
U.S. Bureau of Indian Affairs
Norman Pointe II Building
5600 West American Boulevard, Suite 500
Bloomington, MN 55437

Review Officer
U.S. Environmental Protection Agency
Region V
77 W Jackson Boulevard
Chicago, IL 60604-3511

Nick Utrup
Hydropower Coordinator
U.S. Fish & Wildlife Service
Ecological Services Field Office
4101 American Boulevard East
Bloomington, MN 55425

David J. Thomson
Program Manager, IR 345 - RTCA and
Accessibility Program
National Park Service - Rivers, Trails &
Conservation Assistance Program
Midwest Regional Office:
601 Riverfront Drive
Omaha, NE 68102

Susan Rosebrough
HAP Team Lead
National Park Service - Rivers, Trails &
Conservation Assistance Program
Midwest Regional Office:
601 Riverfront Drive
Omaha, NE 68102

Lil Jonas
NPS HAP Hydropower Consultant
National Park Service - Rivers, Trails &
Conservation Assistance Program
Midwest Regional Office:
601 Riverfront Drive
Omaha, NE 68102

Hector Santiago
Wild and Scenic Rivers Program
U.S. National Park Service
601 Riverfront Drive
Omaha, NE 68102-4226

Tribes

Bryan Newland
Chairman
Bay Mills Indian Community of Michigan
12140 W. Lakeshore Drive
Brimley, MI 49715-9319

Anthony Reider
President
Flandreau Santee Sioux Tribe of South
Dakota
P.O. Box 283
603 W. Broad Avenue
Flandreau, SD 57028-0283

Kevin Dupuis Sr.
Chairman
Fond du Lac Reservation Business
Committee
1720 Big Lake Road
Cloquet, MN 55720-9702

Ned Daniels Jr.
Chairman
Forest County Potawatomi Community of
Wisconsin
P.O. Box 340
Crandon, WI 54520

Andrew "Andy" Werk Jr.
President
Fort Belknap Indian Community of the Fort
Belknap Reservation of Montana
656 Agency Main Street
Harlem, MT 59526-9455

Robert "Bobby" Deschampe
Chairman
Grand Portage Reservation Bus. Committee
P.O. Box 428
Grand Portage, MN 55605-0428

Marlon WhiteEagle
President
Ho-Chunk Nation of Wisconsin
W9814 Airport Road
Black River Falls, WI 54615

David Pacheco Jr.
Chairman
Kickapoo Tribe of Oklahoma
P.O. Box 70
McLoud, OK 74851

Louis Taylor
Chairman
Lac Courte Oreilles Band of Chippewa
Indians
13394 W. Trepania Road, Bldg No. 1
Hayward, WI 54843-2186

Joseph Wildcat, Sr.
President
Lac du Flambeau Band of Lake Superior
Chippewa Indians of the Lac du Flambeau
Reservation of Wisconsin
P.O. Box 67
Lac du Flambeau, WI 54538

Robert L. Larsen
President
Lower Sioux Indian Community in the State
of Minnesota
P.O. Box 308
Morton, MN 56270

Gunner Peters, Chairman
Menominee Indian Tribe of Wisconsin
P.O. Box 910
Keshena, WI 54135

Tehassi Hill
Tribal Chair
Oneida Tribe of Indians of Wisconsin
P.O. Box 365
Oneida, WI 54155-0365

Noah White
THPO
Prairie Island Indian Community in the State
of Minnesota
5636 Sturgeon Lake Road
Welch, MN 55089

Richard "Rick" Peterson
Tribal Chair
Red Cliff Band of Lake Superior Chippewa
Indians
88455 Pike Road, Hwy 13
Bayfield, WI 54814

Roger Trudell
Chairperson
Santee Sioux Nation, Nebraska
108 Spirit Lake Avenue West
Niobrara, NE 68760-7219

Darwin James
District Chairperson
Sisseton-Wahpeton Oyate of the Lake
Traverse Reservation, South Dakota
P.O. Box 509
Agency Village, SD 57262-0509

Robert VanZile Jr.
Tribal Chair
Sokaogon Chippewa Community
3051 Sand Lake Road
Crandon, WI 54520-9801

Douglas Yankton, Sr. Chairperson
Spirit Lake Tribe, North Dakota
P.O. Box 359
Fort Totten, ND 58335-0359

Susan Lowe
Chair
St Croix Band of Lake Superior Chippewa
24663 Angeline Avenue
Webster, WI 54893-9246

Shannon Holsey
Tribal President
Stockbridge-Munsee Band of Mohican
Indians
P.O. Box 70
N8476 Mo He Con Nuck Road
Bowler, WI 54416

Bonney Hartley
THPO
Stockbridge Munsee Tribe of Mohican
Indians
65 1st Street
Troy, NY 12180

Kevin Jensvold
Chairperson
Upper Sioux Community Minnesota
P.O. Box 147
Granite Falls, MN 56241

State Agencies

Division of Energy Regulation
Public Service Commission of Wisconsin
PO Box 7854
Madison, WI 53707-7854

Kathleen Angel
Wisconsin Department of Administration
Wisconsin Coastal Management Program
101 East Wilson Street, 10th Floor
Madison, WI 53703

Cheryl Laatsch
FERC Coordinator
Wisconsin Department of Natural Resources
Wisconsin DNR Horicon Service Center
N7725 Highway 28
Horicon, WI 53032-9782

Attorney General
Wisconsin Office of Attorney General
114 East, State Capitol
Madison, WI 53702-0001

Tyler B. Howe
State Historic Preservation Office
Wisconsin Historical Society
816 State Street
Madison, WI 53706

Local Governments

Dan Wietecha
City Administrator
City of Hastings
101 4th Street East
Hastings, MN 55033

Becky Eggen
City Clerk
City of Hudson
505 3rd Street
Hudson, WI 54016-1694

Amy White
City Clerk
City of River Falls
222 Lewis Street
River Falls, WI 54022

Jeff Holst
Chair
Pierce County
Board of Supervisors
414 W. Main Street
Ellsworth, WI 54011

Jamie Feuerhelm
County Clerk
Pierce County, Wisconsin
414 W. Main Street
P.O. Box 119
Ellsworth, WI 54011

Cindy Campbell
County Clerk
1101 Carmichael Road
Room 1400
Hudson, WI 54016

City Clerk
City of Cottage Grove
12800 Ravine Parkway South
Cottage Grove, MN 55016

City Clerk
City of Woodbury
8301 Valley Creek Road
Woodbury, MN 55125

City Clerk
City of Stillwater
216 North Fourth Street
Stillwater, MN 55082

**Non-Governmental Organizations /
Other Stakeholders**

Mark Singleton
Executive Director
American Whitewater
P.O. Box 1540
Cullowhee, NC 28723

Michael Page
President
Friends of the Kinni
315 N Fremont Street
River Falls, WI 54022

Geological & Natural History Survey
University of Wisconsin Extension
3817 Mineral Point Road
Madison, WI 53705-5121

Charlene Brooks
Executive Director
Kinnickinnic River Land Trust
P.O. Box 87
265 Mound View Road, Suite C
River Falls, WI 54022-0087

Sheldon Johnson
Executive Director
Northwest Regional Planning Commission
1400 South River Street
Spooner, WI 54801-8692

Allison Werner
Executive Director
River Alliance of Wisconsin
345 W Washington Ave, Suite 304
Madison, WI 53703

James Fossum
JDFossum Environmental Consulting
Winona, MN

Deb Ryun
Executive Director
St. Croix River Association
230 S. Washington Street, Unit 1
P.O. Box 655
St. Croix Falls, WI 54024

JScott Wagner
Chapter President
Trout Unlimited, Kiap TU Wish Chapter
P.O. Box 483
Hudson, WI 54016-0483

Duke Welter
Outreach Coordinator
Trout Unlimited Driftless Area Restoration
Effort
329 S. Lincoln Avenue
Viroqua, WI 54665

Dan Isermann, Unit Leader
Wisconsin COOP Fishery Research Unit
U.S.D.I., College of Natural Resources
University of Wisconsin
800 Reserve Street
Stevens Point, WI 54481

David M. Coon
Supervisor
Wisconsin Valley Improvement Company
2301 N 3rd Street
Wausau, WI 54403-3202

Individuals

Patricia La Rue
489 Marcella Court
River Falls, WI 54022

Robert Chambers

Angie Tornes

Landowners

Foster Associates, Inc
c/o Judie Babcock
404 S. Winter Street
PO Box 3
River Falls, WI 54022

River City Rentals of Wisconsin, LLC
314 Luca Lane
River Falls, WI 54022

Licensee

Kevin Westhuis
Utility Director
City of River Falls Municipal Utilities
222 Lewis Street
River Falls, WI, 54022

Lesley Brotkowski
Senior Consultant
Kleinschmidt Associates
233403 Stettin Ridge Court
Wausau, WI 54401

Angela Whelpley
Permitting Specialist
TRC Companies
14 Gabriel Drive
Augusta, ME 04330

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**CITY OF RIVER FALLS MUNICIPAL UTILITIES
RIVER FALLS, WISCONSIN**

**FINAL LICENSE APPLICATION
FOR THE RIVER FALLS HYDROELECTRIC PROJECT
(FERC NO. 10489)**



Submitted by:

**City of River Falls Municipal Utilities
222 Lewis Street
River Falls, WI 54022**

Prepared by:

**TRC
6737 West Washington Street
Suite 2100
West Allis, WI 53214**

August 2021



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INITIAL STATEMENT

**BEFORE THE
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION**

City of River Falls Municipal Utilities)	Project No. 10489
)	River Falls Hydroelectric Project
)	

**APPLICATION FOR LICENSE
FOR MINOR WATER POWER PROJECT**

INITIAL STATEMENT

(Pursuant to 18 CFR §4.61)

- (1) City of River Falls Municipal Utilities (hereinafter “Applicant” or “Licensee”) applies to the Federal Energy Regulatory Commission (hereinafter “FERC” or “Commission”) for a subsequent License for River Falls Hydroelectric Project, an existing licensed minor project, as described in the attached exhibits. The River Falls Hydroelectric Project is a two-development project, which includes the Junction Falls Development and the Powell Falls Development. The Project is currently licensed as Project No. 10489. The Applicant received a 30-year FERC license in 1988. The Applicant requested and received a five-year license extension from the FERC to allow for a river corridor planning process and consideration of dam removal. The FERC license now expires on August 31, 2023. The Applicant is the only entity that has or intends to obtain and will maintain any proprietary right or interest to construct, operate, or maintain the River Falls Hydroelectric Project.

The River Falls Hydroelectric Project consists of two existing hydroelectric facilities, which are located on the Kinnickinnic River in Pierce County, Wisconsin. The Licensee proposes to maintain and operate the Junction Falls Development and pursue a subsequent FERC license for this facility. On July 9, 2021, an application for non-capacity amendment of license was filed with FERC proposing to cease operation and decommission the Powell Falls Development. FERC issued a Notice of Application for Amendment of License, Soliciting Comments, Motions to Intervene, and Protests on July 28, 2021; the deadline for filing comments, motions to intervene and protests is August 27, 2021. Hereinafter, the River Falls Hydroelectric Project (“Project”) will include the Junction Falls Development only and exclude the Powell Falls Development.

(2) The location of the Project is:

State or territory: Wisconsin
County: Pierce
Township or nearby towns: River Falls
Stream or other body of water: Kinnickinnic River

(3) The exact name, business address, and telephone number of the Applicant are:

City of River Falls Municipal Utilities
222 Lewis Street
River Falls, WI 54022
Attn.: Kevin Westhuis
Phone: (920) 462-0220

(4) The exact name, business address, and telephone number of each person authorized to act as agent for the Applicant in this application are:

Kevin Westhuis
Utility Director
City of River Falls Municipal Utilities
222 Lewis Street
River Falls, WI 54022
Phone: (920) 462-0220

It is requested that copies of all correspondence pertaining to this application be provided to:

Lesley Brotkowski
Senior Licensing Coordinator
Kleinschmidt Associates
233403 Stettin Ridge Court
Wausau, WI 54401

Angela Whelpley
Permitting Specialist
TRC
14 Gabriel Drive
Augusta, ME 04330

(5) The applicant is a municipal utility and is not claiming preference under section 7(a) of the Federal Power Act. See 16 U.S.C. 796.

(6) (i) The statutory or regulatory requirements of the State of Wisconsin, in which the project is located, which would, assuming jurisdiction and applicability, affect the project as proposed with respect to bed and banks and the appropriation, diversion, and use of water for power purposes, and with respect to the right to engage in the business of

developing, transmitting, and distributing power and in any other business necessary to accomplish the purposes of the license under the Federal Power Act, are:

- (A) This is an existing project that is owned by the City of River Falls Municipal Utilities. The City of River Falls Municipal Utilities is an enterprise fund of the City of River Falls. River Falls is chartered as a third-class city under Chapter 62 of the Wisconsin statutes. Chapter 197 of the statutes grants to municipalities the authority, subject to provisions of Chapter 196 (*Regulation of Public Utilities*), to construct plants and to install equipment for the production, transmission, delivery, or furnishing of power.
 - (B) In accordance with Section 401 of the Federal Water Pollution Control Act, 22 U.S.C. §1341, the Applicant must obtain water quality certification, or a waiver thereof, from the State of Wisconsin.
 - (C) The Applicant must comply with the provisions of the Coastal Zone Management Act (CZMA) in 1972.
- (ii) The steps which the Applicant has taken, or plans to take, to comply with each of the laws cited above are:
- (A) City of River Falls Municipal Utilities has complied with all state laws necessary for its corporate existence, for engaging in the business of a public electric utility, and for ownership, operation, and maintenance of the Project.
 - (B) The Applicant will apply to the Wisconsin Department of Natural Resources (Wisconsin DNR) for the Section 401 water quality certification (see Exhibit E, Section 2.0 of this application).
 - (C) The Wisconsin Coastal Management Program (WCMP) is responsible for implementing the State of Wisconsin's management program. The Applicant has initiated consultation with the Federal Consistency Coordinator of the Wisconsin Coastal Management Program. The Licensee requested a CZMA compliance determination from WCMP on March 15, 2021, although it is unlikely a review will be required because the Project is not located in Wisconsin's designated coastal area (see Exhibit E, Section 2.0 of this application).
- (7) Brief Project description:
- The River Falls Hydroelectric Project, comprised of the Junction Falls Development, consists of: (1) a 114.7-foot-long, 32.5-foot-high concrete uncontrolled stepped spillway; (2) 26-foot long headworks consisting of a wasteway and penstock intake; (3) an impoundment with a surface area of 15.0 acres at the normal full pool elevation of 865.6

feet North American Vertical Datum of 1988 (NAVD88); (4) a 170-foot-long, 6-foot-diameter penstock; (5) a powerhouse containing one generating unit rated at 250 kilowatts (kW); (6) a 163-foot-long 2,300 volt interconnection line connecting the powerhouse to a 500 kVA Howard step-up transformer and a 480-foot-long 12,470 volt interconnection line exiting the transformer; and (7) appurtenant facilities. The impoundment of the Junction Falls Development is also known as Lake George. The Junction Falls Development is operated in a run-of-river mode.

See Exhibit A, Project Description and Exhibit F, General Design Drawings for a complete description of the Project.

- (i) Proposed installed generating capacity: 250 kW (0.25 MW).
- (ii) Check appropriate box:
 - existing dam unconstructed dam
 - existing dam, major modified project (see §4.30(b)(14))

(8) Lands of the United States:

There are no lands of the United States within the Project boundary and no lands of the United States are affected by Project operations.

	(Name)	(Acres)
(i) National Forest	N/A	0
(ii) Indian Reservation	N/A	0
(iii) Public Lands Under Jurisdiction of	N/A	0
(iv) Other	N/A	0
(v) Total U.S. Lands	N/A	0

- (vi) Check appropriate box:
 - Surveyed land Unsurveyed land

(9) Construction of the Project:

This is an existing Project and no new construction is planned in association with this license application.

Pursuant to 18 CFR §5.18(a)

- (1) Identify every person, citizen, association of citizens, domestic corporation, municipality, or state that has or intends to obtain and will maintain any proprietary right necessary to construct, operate, or maintain the Project.

City of River Falls Municipal Utilities currently possesses all proprietary rights necessary to construct, operate, and maintain the River Falls Hydroelectric Project.

(2) Identify (providing names and addresses):

(i) *Every county in which any part of the Project, and any Federal facilities that would be used by the Project is located:*

The Project is located in Pierce County, Wisconsin.

County Clerk
County of Pierce
14 W. Main Street
PO Box 119
Ellsworth, WI 54011

There are no Federal facilities used by the Project.

(ii) *Every city, town, or similar local political subdivision:*

(A) *In which any part of the Project is or is to be located and any Federal facility that is or is to be used by the Project is located:*

The Project is located in the City of River Falls, Wisconsin.

Amy White
City Clerk
City of River Falls
222 Lewis Street
River Falls, WI 54022

(B) *That has a population of 5,000 or more people and is located within 15 miles of the existing or proposed Project dam:*

The City of River Falls, Wisconsin had a reported population of 16,027 in the 2019 U.S. Census estimate.¹

City Clerk
City of River Falls
222 Lewis Street
River Falls, WI 54022

¹ U.S. Census Bureau QuickFacts: River Falls City, Wisconsin. (2020). Retrieved 29 December 2020, from <https://www.census.gov/quickfacts/fact/table/riverfallscitywisconsin>

The City of Hudson, Wisconsin had a reported population of 14,103 in the 2019 U.S. Census estimate.²

City Clerk
City of Hudson
505 3rd Street
Hudson, WI 54016-1694

The City of Hastings, Minnesota had a reported population of 22,886 in the 2019 U.S. Census estimate.³

City Administrator
City of Hastings
101 4th Street East
Hastings, MN 55033

The City of Cottage Grove, Minnesota had a reported population of 37,604 in the 2019 U.S. Census estimate.⁴

City Clerk
City of Cottage Grove
12800 Ravine Parkway South
Cottage Grove, MN 55016

The City of Woodbury, Minnesota had a reported population of 72,828 in the 2019 U.S. Census estimate.⁵

City Clerk
City of Woodbury
8301 Valley Creek Road
Woodbury, MN 55125

² U.S. Census Bureau QuickFacts: Hudson City, Wisconsin. (2020). Retrieved 29 December 2020, from <https://www.census.gov/quickfacts/hudsoncitywisconsin>

³ U.S. Census Bureau QuickFacts: Hastings City, Minnesota. (2020). Retrieved 29 December 2020, from <https://www.census.gov/quickfacts/hastingscityminnesota>

⁴ U.S. Census Bureau Quick Facts: Cottage Grove city, Minnesota. (2021). Retrieved 3 March 2021 from <https://www.census.gov/quickfacts/fact/table/cottagegrovecityminnesota>

⁵ U.S. Census Bureau Quick Facts: Woodbury City, Minnesota. (2021). Retrieved 3 March 2021 from <https://www.census.gov/quickfacts/woodburycityminnesota>

The City of Stillwater, Minnesota had a reported population of 19,627 in the 2019 U.S. Census estimate.⁶

City Clerk
City of Stillwater
216 North Fourth Street
Stillwater, MN 55082

(iii) *Every irrigation district, drainage district, or similar special purpose political subdivision:*

(A) *In which any part of the Project, and any Federal facilities that would be used by the Project is located:*

OR

(B) *That owns, operates, maintains, or uses any Project facilities that would be used by the Project:*

There is no irrigation, drainage district, or similar special purpose political subdivision that owns, operates, maintains or uses any portion of the Project or Project facilities.

(iv) *Every other political subdivision in the general area of the Project that there is reason to believe would be likely to be interested in, or affected by, the application:*

There is no other political district or subdivision that is likely to be interested in or affected by the application.

(v) *All Indian Tribes that may be affected by the Project:*

There is no Native American Tribe that is directly affected by the Project. The following is a list of Native American tribes and organizations that were sent the Notice of Intent and Pre-Application Document during the initial phase of the relicensing effort.

Bryan Newland
Chairman
Bay Mills Indian
Community of Michigan
12140 W. Lakeshore Drive
Brimley, MI 49715-9319

Anthony Reider
President
Flandreau Santee Sioux
Tribe of South Dakota
P.O. Box 283
603 W. Broad Avenue
Flandreau, SD 57028-0283

⁶ U.S. Census Bureau Quick Facts: Stillwater city, Minnesota. (2021). Retrieved 3 March 2021 from <https://www.census.gov/quickfacts/fact/table/stillwatercityminnesota>

Kevin Dupuis Sr.
Chairman
Fond du Lac Reservation
Business Committee
1720 Big Lake Road
Cloquet, MN 55720-9702

Ned Daniels Jr.
Chairman
Forest County Potawatomi
Community of Wisconsin
P.O. Box 340
Crandon, WI 54520

Andrew "Andy" Werk Jr.
President
Fort Belknap Indian
Community of the Fort
Belknap Reservation of
Montana
656 Agency Main Street
Harlem, MT 59526-9455

Robert "Bobby" Deschampe
Chairman
Grand Portage Reservation
Bus. Committee
P.O. Box 428
Grand Portage, MN 55605-
0428

Marlon WhiteEagle
President
Ho-Chunk Nation of Wisconsin
W9814 Airport Road
Black River Falls, WI 54615

David Pacheco Jr.
Chairman
Kickapoo Tribe of Oklahoma
P.O. Box 70
McLoud, OK 74851

Louis Taylor
Chairman
Lac Courte Oreilles Band of
Chippewa Indians
13394 W. Trepania Road, Bldg
No. 1
Hayward, WI 54843-2186

Joseph Wildcat, Sr.
President
Lac du Flambeau Band of Lake
Superior Chippewa Indians of
the Lac du Flambeau
Reservation of Wisconsin
P.O. Box 67
Lac du Flambeau, WI 54538

Robert L. Larsen
President
Lower Sioux Indian
Community in the State of
Minnesota
P.O. Box 308
Morton, MN 56270

Gunner Peters
Chairman
Menominee Indian Tribe of
Wisconsin
P.O. Box 910
Keshena, WI 54135

Tehassi Hill
Tribal Chairperson
Oneida Tribe of Indians of
Wisconsin
P.O. Box 365
Oneida, WI 54155-0365

Noah White
THPO
Prairie Island Indian
Community in the State of
Minnesota
5636 Sturgeon Lake Road
Welch, MN 55089

Richard "Rick" Peterson
Tribal Chairman
Red Cliff Band of Lake
Superior Chippewa Indians
88455 Pike Road, Hwy 13
Bayfield, WI 54814

Roger Trudell
Chairperson
Santee Sioux Nation, Nebraska
108 Spirit Lake Avenue West
Niobrara, NE 68760-7219

Darwin James
District Chairperson
Sisseton-Wahpeton Oyate of
the Lake Traverse Reservation,
South Dakota
P.O. Box 509
Agency Village, SD 57262-0509

Robert VanZile Jr.
Tribal Chair
Sokaogon Chippewa
Community
3051 Sand Lake Road
Crandon, WI 54520-9801

Douglas Yankton,
Sr. Chairperson
Spirit Lake Tribe, North
Dakota
P.O. Box 359
Fort Totten, ND 58335-0359

Susan Lowe
Chairperson
St Croix Band of Lake Superior
Chippewa
24663 Angeline Avenue
Webster, WI 54893-9246

Shannon Holsey
Tribal President
Stockbridge-Munsee Band of
Mohican Indians
P.O. Box 70
N8476 Mo He Con Nuck
Road
Bowler, WI 54416

Bonney Hartley
THPO
Stockbridge Munsee Tribe of
Mohican Indians
65 1st Street
Troy, NY 12180

Kevin Jensvold
Chairperson
Upper Sioux Community
Minnesota
P.O. Box 147
Granite Falls, MN 56241

- (3) *(i) For a license (other than a license under section 15 of the Federal Power Act) state that the Applicant has made, either at the time of or before filing the application, a good faith effort to give notification by certified mail of the filing of this application to:*

(A) Every property owner of record of any interest in the property within the bounds of the project, or in the case of the project without a specific boundary, each such owner of property which would underlie or be adjacent to any project works including any impoundments; and

Foster Associates, Inc
c/o Judie Babcock
404 S. Winter Street
PO Box 3
River Falls, WI 54022

River City Rentals of
Wisconsin, LLC
314 Luca Lane
River Falls, WI 54022

(B) The entities identified in paragraph (a)(2) of 18 CFR §5.18, as well as any other Federal, state, municipal or other local government agencies that there is reason to believe would likely be interested in or affected by such application.

A Certificate of Service is attached to the transmittal letter for this Application for a Subsequent License.

- (4) In accordance with 18 CFR § 5.18 of the Commission's regulations, this Initial Statement along with the following Exhibits are made a part of this application:

Exhibit A – Project Description

Exhibit E – Environmental Report

Exhibit F – General Design Drawings and Supporting Design Report *(filed under separate cover as CUI/CEII)*

Exhibit G – Project Map

SUBSCRIPTION

This Final Application for a Subsequent License for the River Falls Hydroelectric Project, FERC No. 10489 is executed in the State of Wisconsin, County of Pierce, by Kevin Westhuis, Utility Director, City of River Falls Municipal Utilities, 222 Lewis Street, River Falls, WI 54022, who, being duly sworn, deposes and says that the contents of this application are true to the best of his knowledge or belief and that he is authorized to execute this application on behalf of City of River Falls Municipal Utilities. The undersigned has signed this application this 24th day of August 2021.

CITY OF RIVER FALLS MUNICIPAL UTILITIES

By *Kevin Westhuis*
Kevin Westhuis
Utility Director
City of River Falls Municipal Utilities

VERIFICATION

Subscribed and sworn to before me, a Notary Public of the State of Wisconsin, this 24th day of August, 2021.

C. Campbell
(Notary Public)

(My Commission Expires *6/23/23*)/seal

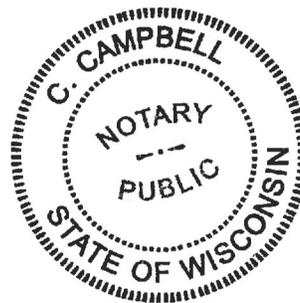


EXHIBIT A
PROJECT DESCRIPTION

**RIVER FALLS HYDROELECTRIC PROJECT
PROJECT NO. 10489**

**FINAL APPLICATION FOR LICENSE
FOR MINOR WATER POWER PROJECT**

**EXHIBIT A
PROJECT DESCRIPTION**

August 2021

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List of Acronyms

Applicant	City of River Falls Municipal Utilities
bhp	brake horsepower
CEII	Critical Energy Infrastructure Information
cfs	cubic feet per second
Commission	Federal Energy Regulatory Commission
CUI	Controlled Unclassified Information
FERC	Federal Energy Regulatory Commission
kVA	kilovolt-ampere
kW	kilowatt
kWh	kilowatt hours
Licensee	City of River Falls Municipal Utilities
NAVD88	North American Vertical Datum of 1988
pf	power factor
Project	River Falls Hydroelectric Project
PSC	Public Service Commission
RFMU	City of River Falls Municipal Utility
RPM	revolutions per minute
USGS	U.S. Geological Survey
WPPI	Wisconsin Public Power Inc.

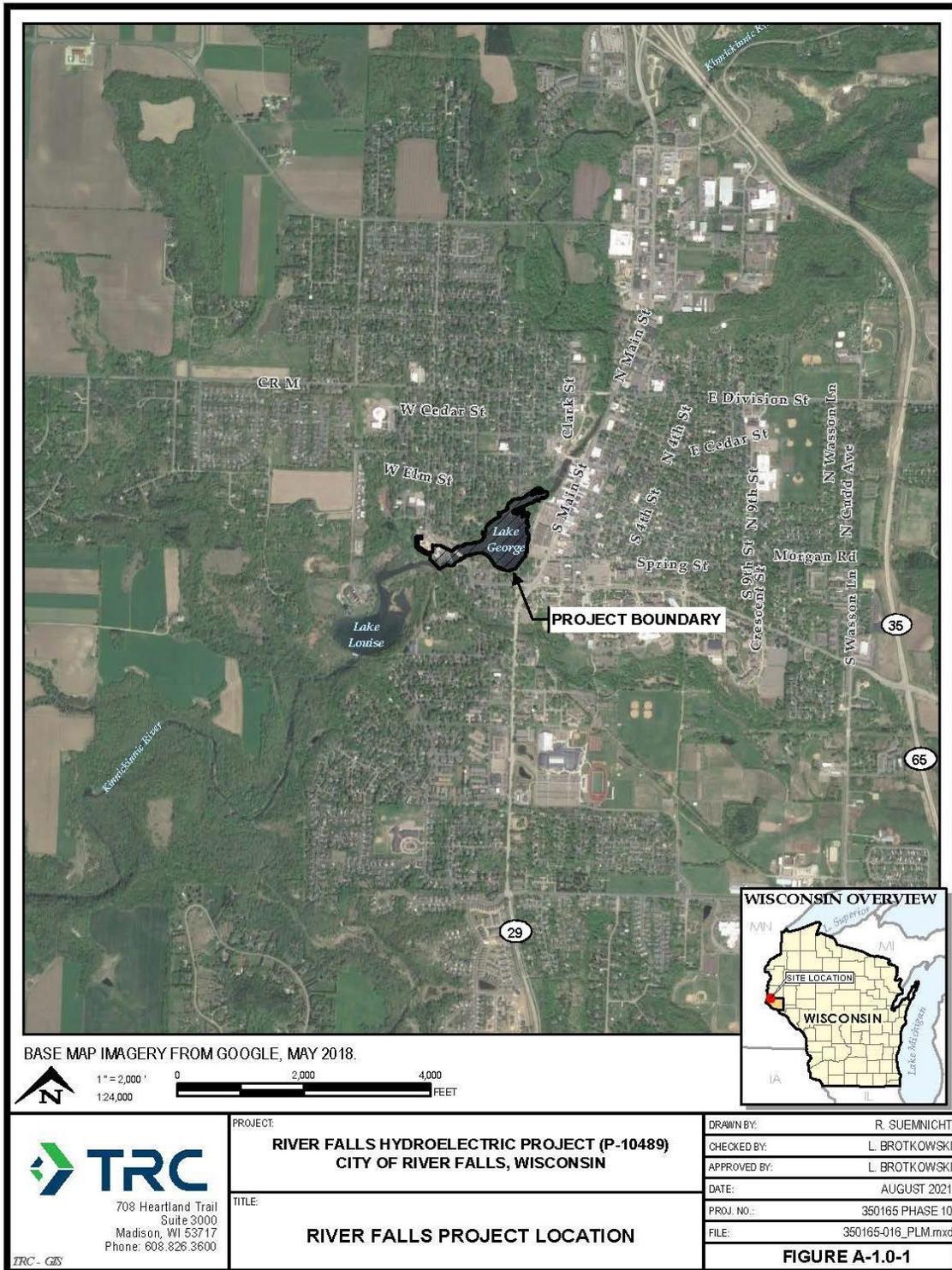
1.0 PROJECT DESCRIPTION

The River Falls Hydroelectric Project is located along the Kinnickinnic River in the City of River Falls, in Pierce County, Wisconsin. The River Falls Hydroelectric Project is licensed by the Federal Energy Regulatory Commission (FERC or Commission) as a two-development project. The two developments include the Junction Falls Development and the Powell Falls Development. City of River Falls Municipal Utilities (hereafter “RFMU,” “Applicant,” or “Licensee”) received a 30-year FERC license in 1988. RFMU requested and received a five-year license extension from FERC to allow for a river corridor planning process and consideration of dam removal. The FERC license now expires on August 31, 2023. The Licensee proposes to maintain and operate the Junction Falls Development and pursue a subsequent FERC license for this facility.

The Licensee has proposed to cease operation and decommission the Powell Falls Development. On July 9, 2021, an application for non-capacity amendment of license was filed with FERC proposing to cease operation and decommission the Powell Falls Development. FERC issued a Notice of Application for Amendment of License, Soliciting Comments, Motions to Intervene, and Protests on July 28, 2021; the deadline for filing comments, motions to intervene and protests is August 27, 2021. Hereinafter, the River Falls Hydroelectric Project (“Project”) will include the Junction Falls Development only (Figure A-1.0-1) and exclude the Powell Falls Development. As such, the Powell Falls Development is not included in Exhibit A; information in Exhibit A includes the Junction Falls Development only.

The Project, comprised of the Junction Falls Development, consists of: (1) a 114.7-foot-long, 32.5-foot-high concrete uncontrolled stepped spillway; (2) 26-foot long headworks consisting of a wasteway and penstock intake; (3) an impoundment with a surface area of 15.0 acres at the normal full pool elevation of 865.6 feet North American Vertical Datum of 1988 (NAVD88); (4) a 170-foot-long, 6-foot-diameter penstock; (5) a powerhouse containing one generating unit rated at 250 kilowatts (kW); (6) a 163-foot-long 2,300 volt interconnection line connecting the powerhouse to a 500 kilovolt-amperes (kVA) Howard step-up transformer and a 480-foot-long 12,470 volt interconnection line exiting the transformer; and (7) appurtenant facilities. The impoundment of the Junction Falls Development is also known as Lake George. The Junction Falls Development is operated in a run-of-river mode.

Figure A-1.0-1. River Falls Project Location



S:\1-PROJECTS\City of River Falls\WI\Hydroelectric\Relicensing\2021_350165_Phase1\0350165-016_PLM.mxd - Saved By: RSUENNICHT on 8/12/2021, 14:31:29 PM

1.1 Generating Units

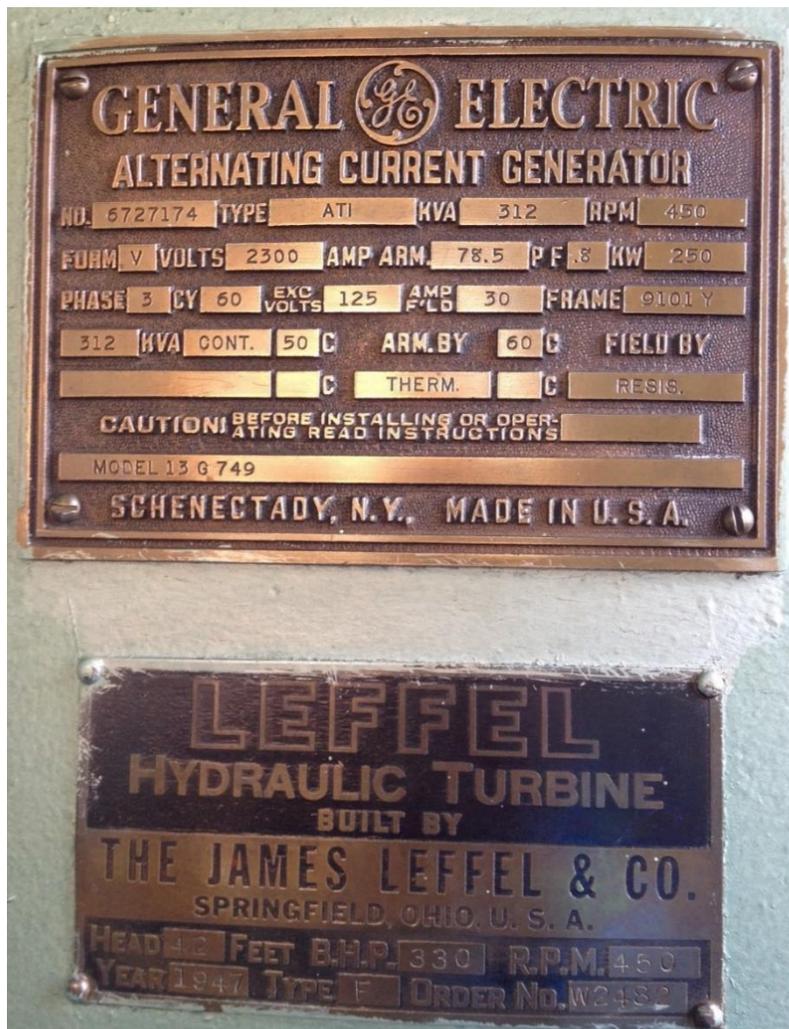
The Project contains one (1) vertical Francis turbine-generator unit. The General Electric Alternative Current Generator is rated at 250 kW, 312 kVA, 2,300 volts, 0.8 power factor (pf), 450 revolutions per minute (RPM), 3 phase type ATI coupled to a Leffel hydraulic turbine (Photo A-1.1-1). No change or addition to the generating unit is proposed.

A 500 kVA Howard step-up transformer, located northwest of the generator, transforms energy at 2,300 volts to 12,470 volts, allowing connection to the substation.

1.2 Turbine Characteristics

The Project contains one (1) Leffel Hydraulic Turbine, 42' design head, 330 brake horsepower (bhp), 450 RPM, Type F, year 1947 (Photo A-1.1-1).

Photo A-1.1-1: Project Nameplates



1.3 Plant Operation

The plant is manually operated and visually monitored from the adjacent Municipal Utilities power plant complex. The Project has no moveable spillway gates; all flow either passes through the powerhouse or over the fixed-crest spillway. The waste gate is not used to pass either normal or flood flows. Its historic purpose is not documented and it has not been used in the present operator's memory (approximately 15 years).

At river flows up to the maximum turbine hydraulic capacity (approximately 80 cubic feet per second (cfs)), the Project is operated in run-of-river mode by adjusting the turbine settings to maintain the pool level as close as practicable to the spillway crest elevation, 865.6 ft. NAVD88. The Project operator or staff check the pond level multiple times a day by confirming visually that a small amount of water is flowing over the spillway crest. When necessary, turbine adjustments are made in increments of approximately 5 kW every 15 minutes to smoothly redirect flows between the powerhouse and the spillway. A 5-kW adjustment corresponds to a change in flow of approximately 3 cfs. When river flows exceed the turbine capacity, uncontrolled flow over the spillway passively maintains a run-of-river condition.

In 1997 - 1999, the Licensee consulted with resource agencies to mitigate downstream flow fluctuations caused by unit outages for trashrack cleaning as outlined in the October 27, 1997 FERC Order Modifying and Approving Operation Protocol¹. As a result of this consultation, the 5 kW/15 minute ramping protocol was adopted, as outlined in the January 8, 1999 submittal by RFMU to FERC and supplemented on March 10, 1999². On April 27, 1999 FERC Order Amending Project Operation Plan³ was issued. The Licensee also agreed that during the fall, when heavy leaf litter is observed in the river, the pool will be maintained slightly above the spillway crest to reduce trashrack clogging and the necessary frequency of cleaning. Other than these periods, trash is removed manually from the intake grate as necessary.

With the discontinuation of the diesel generation at the River Falls Municipal Power Plant in 2011, located adjacent to the Junction Falls Development, the Project is no longer manned on a 24-hour basis. The operator makes daily visits to the Junction Falls Development.

No changes in operation of the Junction Falls Development are proposed.

1.4 Average Annual Generation

The Project's installed capacity is 250 kW and average annual net generation is approximately 1,220,000 kilowatt hours (kWh) (for the period 2014 to 2020). Annual generation and average

¹ https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=19971029-0358

² https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=19990111-0437,
https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=19990315-0235

³ https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=19990428-0460

monthly generation data for the Project are contained in Table A-1.4-1 below, and based on the most recent seven years of generation records. Over the seven year period from 1/2014 to 12/2020, the average dependable capacity was 139 kW.

Table A-1.4-1. Monthly, Annual, and Average Monthly Net Generation (kWh) from the Project

(Note that the annual generation is based on the period January 1, 2014 through December 31, 2020, and represents net generation data from the Licensee)

Month	2014	2015	2016	2017	2018	2019	2020	Average Generation
January	74,328	88,747	115,156	122,621	0	99,640	76,252	82,392
February	62,354	98,202	96,584	107,184	0	80,609	76,878	74,544
March	82,725	102,524	122,562	133,531	37,160	45,676	109,574	90,536
April	96,205	91,431	143,133	142,400	0	133,655	154,268	108,727
May	134,530	105,613	135,624	109,716	94,567	128,233	162,892	124,454
June	95,689	97,080	126,092	150,303	120,737	92,954	132,332	116,455
July	82,031	113,115	130,572	128,196	132,735	133,010	137,899	122,508
August	113,130	134,450	124,949	127,788	108,201	114,036	98,511	117,295
September	98,027	92,990	109,842	121,942	93,062	97,697	55,001	95,509
October	77,679	76,566	102,859	69,941	68,942	82,133	105,495	83,374
November	96,184	109,049	130,339	120,199	89,671	86,049	108,077	105,653
December	105,195	118,569	135,557	2,538	78,676	103,918	145,407	98,551
Total	1,118,077	1,228,336	1,473,269	1,336,359	823,751	1,197,61	1,362,586	1,219,998

1.5 Average Head

The estimated average head at the Project is 43.8 feet.

1.6 Reservoir Characteristics

The impoundment, Lake George, is located between Walnut Street in River Falls, WI and the Project dam. The impoundment has a surface area of 15.0 acres at normal full pool with an elevation of 865.6 feet NAVD88. The Project is operated as a run-of-river facility, which means that the inflow generally equals outflow at the Project.

The gross storage capacity in the Project impoundment is 142.7 acre-feet at normal full pool.

1.7 Hydraulic Capacity

The Project is located in northwestern Wisconsin along the Kinnickinnic River in the Kinnickinnic River Watershed. The Kinnickinnic River Watershed is a 174 square mile watershed encompassing St. Croix and Pierce Counties (Wisconsin DNR 2021a). The Kinnickinnic River Watershed is part of the larger St. Croix River Basin draining a total of 7,760 square miles in Wisconsin and Minnesota. The Kinnickinnic River is a tributary of the St. Croix River, which is located approximately 10 miles downstream of the Project. The average slope of the Kinnickinnic River is approximately 10 feet per mile with middle portions of the river being flatter (USACE 2021).

The drainage area measured at the Junction Falls Development and U.S. Geological Survey (USGS) stream gages used to estimate flows at the Project are shown in Table A-1.7-1.

Table A-1.7-1. Drainage Area at the Project Dam and Kinnickinnic River USGS Stream Gages

Location	Drainage Area (square miles)	Comments
<i>Project</i>		
Junction Falls Development	102	Measured in USGS StreamStats application, V. 4.2.1
<i>USGS gage sites (with period of record):</i>		
USGS gage no. 05341879 at WI Highway 35 (1996-1997)	98	Measured in StreamStats V. 4.2.1; USGS and FEMA published areas differ as discussed below
USGS gage no. 05341930 at River Falls, downstream of Powell Falls Development (1996-1997)	137	
USGS gage no. 05342000 at County Highway F (1917-1921; 2002-2018)	148	

Drainage areas at all points of interest were measured using the most up to date USGS StreamStats web application. Previously reported drainage areas differ from the StreamStats values. For example, the drainage area reported by the USGS at the Highway 35 gage site (05341879, maintained in 1996 and 1997) is 115 square miles, whereas the Pierce County Flood Insurance Study lists the drainage area at the same location as 78 square miles. At USGS gage 05341854, maintained by the USGS in 2007 and 2008, the published drainage area of 52.7 square miles agrees with the StreamStats measurement; but the 1983 USGS publication “Drainage Area Data for Wisconsin Streams” lists a drainage area of 67 square miles at a site just upstream of gage 05341854. In general, most pre-2007 USGS drainage area measurements on the Kinnickinnic River are about 17 square miles larger than the current StreamStats measured value. A review of topographic maps of the upper watershed shows significant areas of poorly defined and internal drainage, which likely led to the historic discrepancies between measurements.

Mean, median, maximum, and minimum daily flows at the Junction Falls Development are shown in Table A-1.7-2. These flows were estimated by a direct drainage area transfer from USGS Gaging Station 05342000 for the period of record 2002 – 2020.

Table A-1.7-2. Summary Flow Statistics of the Junction Falls Development, 2002 – 2020

	Daily Flow (cfs)	Date
Mean	84	
Median	76	
Maximum	2,488	June 29, 2020
Minimum	46	February 3, 2009

Monthly mean, maximum, and minimum daily flows at Junction Falls Development are described in Exhibit E, Section 4.2. Over the period of record (2002–2020), the highest monthly mean flows (106 cfs) have occurred in March and the lowest (69 cfs) in January.

Flow duration values were estimated from daily flows recorded at the downstream USGS stream gage (USGS Gage No. 05342000, located on the Kinnickinnic River at County Highway F) from 2002 to 2020 as described in Exhibit E, Section 5.2. Monthly flow duration curves are shown in Appendix A-1.

1.8 Project Facilities

The Junction Falls Development consists of a left abutment and downstream retaining wall, an uncontrolled stepped spillway, and headworks consisting of a wasteway and penstock intake. Water from the headworks is conveyed through a concrete-encased, 6-foot diameter steel penstock to the powerhouse, which is located on the right bank downstream of the dam. The 26-foot long headworks structure contains a 5-foot square gated sluice bay and a gated 7-foot- wide by 19-foot-high bay with a trashrack that controls water to the penstock. A right retaining wall is located just downstream of the headworks structure. The total length of the spillway crest is 114.7 feet. The powerhouse contains one generating unit rated at 250 kW. A 163-foot-long, 2,300 volt interconnection line runs from the powerhouse to a 500 kVA Howard step-up transformer where energy is transformed to 12,470 volts. An approximately 480 foot long 12,470 volt interconnection line runs from the transformer to the substation.

Figure A-1.8-1 highlights certain Project facilities and Table A-1.8-1 summarizes existing Project information and facilities. The Project General Design Drawings and Supporting Design Report are included in Exhibit F, which contains Controlled Unclassified Information (CUI) / Critical Energy Infrastructure Information (CEII) and have been filed under separate cover.

Figure A-1.8-1. Project Facilities



Source: River Falls Emergency Action Plan 2018, Image courtesy of Google Earth Pro and used under license agreement

Table A-1.8-1. Junction Falls Development Information Summary

GENERAL INFORMATION	
Project Name	River Falls Hydroelectric Project
FERC Project No.	10489
Owner and Licensee	City of River Falls Municipal Utilities
County	Pierce County, Wisconsin
Nearest Towns	City of River Falls
Junction Falls Development	
River	Kinnickinnic River
Drainage Area above Project	102 square miles
Normal Full Pool Elevation	865.6 feet NAVD88
Impoundment Surface Area at Normal Full Pool	15.0 acres
Impoundment Length	Approximately 1,920 feet
Project Boundary Area (as depicted on Exhibit G)	19.0 acres (approximately 15.3 acres water [15.0 acres in the impoundment, 0.3 acre below the dam] and 3.7 acres land)
Impoundment Shoreline Length	Approximately 5,020 feet

GENERAL INFORMATION	
Gross Storage Capacity	142.7 acre-feet at normal full pool
Average Annual Inflow at Project	84 cfs for the period of record July 2002-December 2020
Average Annual Energy Production	1,220,000 kWh for the period 2014-2020
Total Maximum Hydraulic Capacity	80 cfs
Minimum Hydraulic Capacity	12 cfs for continuous operation and 3 cfs for short-term ramping startup
Structures	
Dam	RFMU owned and operated. Concrete gravity, constructed in 1948, rehabilitated in 1989. 140.7 feet long (comprised of 114.7-foot long spillway and 26-foot wide headworks)
Spillway	114.7 feet long stepped concrete overflow spillway, 32.5 feet high, spillway crest elevation is 865.6 feet NAVD88
Headworks	Concrete structure at right end of spillway, 26 feet wide by 27 feet long by 35 feet high excluding 3.5-foot parapet wall. Contains 5 feet x 5 feet wasteway intake and 7 feet wide by 19 feet high penstock intake.
Average Head	43.8 feet
Tailrace	Approximately 15 feet to 40 feet wide, 30 feet long (includes area enclosed by the training wall). Normal tailwater elevation at the powerhouse is approximately 821.8 feet NAVD88.
Penstock for Powerhouse	Steel tube penstock encased in concrete, 170 feet long, 6-foot diameter penstock
Powerhouse	Brick and Masonry, 16 feet long by 18 feet wide by 55 feet high
Turbine/Generator Unit	One (1) 250 kW vertical Francis turbine-generator unit
Interconnection Lines	<ul style="list-style-type: none"> • 163-foot-long, 2,300 volt interconnection line connecting the powerhouse to a 500 kVA Howard step-up transformer • 480-foot-long, 12,470 volt interconnection line connecting the 500 kVA Howard step-up transformer to the substation
Trashrack	18.5 feet high by 6.83 feet wide, 2 1/4-inch clear spacing
Right abutment	Concrete, integral to headworks structure
Left abutment	31 feet long, concrete wall with crest elevation 873.1 NAVD88
Right retaining wall	Concrete, 50 feet long, crest elevation varies
Left retaining wall	Concrete, 36 feet long, crest elevation varies
Lower powerhouse training wall	Concrete, 70 feet long, elevation varies

1.9 Estimated Project Cost

The estimated cost of the Project is \$218,586 based on the net asset summary outlined in Table A-1.9-1 below.

Table A-1.9-1. Summary of Net Assets for the Year Ending 12/31/20

Junction Falls Hydroelectric Plant - DEPT 7000	Book Value	Accumulated Depreciation	Net Book Value
Land and Land Rights 330	\$15,310	-	\$15,310
Structures and Improvements 331	\$21,169	\$21,169	-
Reservoirs, Dam 332	\$809,316	\$606,040	\$203,276
Water Wheels, Turbines & Gen 333	\$15,379	\$15,379	-
Miscellaneous Power Equip. 335	\$2,748	\$2,748	-
TOTAL	\$863,922	\$645,336	\$218,586

1.10 Capital Costs

The estimated annual capital cost for the Project is \$60,600 as outlined in Table A-1.10-1 below.

Table A-1.10-1. Annual Operations and Maintenance Expenses and Capital Costs

Historical Costs	2014	2015	2016	2017	2018	2019	2020 (unaudited)
Total Hydraulic Expenses (PSC)	\$41,021	\$22,046	\$16,890	\$21,866	\$18,872	\$21,178	\$28,420
Total Insurance (PSC 926 allocated)	\$1,500	\$1,500	\$1,500	\$1,556	\$1,554	\$1,869	\$2,007
Total Hydraulic Depreciation (PSC)	\$20,233	\$20,233	\$20,233	\$20,233	\$20,232	\$20,232	\$20,233
Pilot Calculation (PSC)	\$12,380	\$14,393	\$13,890	\$14,315	\$14,963	\$15,188	\$15,974
TOTAL EXPENSES (calculated)	\$75,134	\$58,172	\$52,513	\$57,970	\$55,622	\$58,467	\$66,634
Total Hydro Plant Value	\$863,922	\$863,922	\$863,922	\$863,922	\$863,922	\$863,922	\$863,922
Capital Outlay	\$60,600	\$60,600	\$60,600	\$60,600	\$60,600	\$60,600	\$60,600
TAX RATE FOR PILOT⁴	14.33	16.66	16.08	16.57	17.32	17.58	18.49
Total Expenses / Total Hydro Plant	0.09	0.07	0.06	0.07	0.06	0.07	0.08

⁴ PILOT = payment in lieu of local general property taxes for tax exempt property owned by the municipality. The calculation is regulated by the Wisconsin Public Service Commission (PSC) and is based on the city's tax calculation. <https://psc.wi.gov/Pages/ForUtilities/Water/RateofReturn.aspx>

2.0 PURPOSE OF PROJECT

The purpose of the Project is to generate renewable hydroelectric energy. RFMU is a community owned and operated utility and is a member of Wisconsin Public Power Inc. (WPPI) a joint action power supply agency with 51 members in Wisconsin, Upper Michigan, and Iowa. The utility provides electric service to the City of River Falls, WI.

3.0 LICENSE DEVELOPMENT COSTS

The costs incurred by the Licensee to develop the license application to FERC is estimated at \$550,000.

4.0 POWER VALUE

RFMU is a public utility owned by the people of the community it serves. RFMU is a co-owner of the not-for-profit, WPPI Energy. Through WPPI Energy, RFMU purchases low-cost electricity for its community and takes advantage of the latest technologies to better serve community needs. Power generated by the Project reduces the amount of energy and capacity purchased from WPPI to serve RFMU's customers. The 2021 wholesale energy rate offset by hydroelectric production varies from \$0.02421 to \$0.05189/kWh depending on time of day, day of the week, and month of the year. The 2021 wholesale demand charge offset in RFMU's monthly peak hour ranges from \$10.865 to \$16.865/kWh depending on season of the year. The 2021 wholesale transmission charge offset in RFMU's monthly peak is \$6.956/kWh. Both the total energy costs and total demand costs have monthly true-up adjustments to reflect WPPI Energy's actual monthly system costs. The total energy produced by the Project in 2020 was 1,362,586 kWh.

5.0 ESTIMATED AVERAGE ANNUAL INCREASE OR DECREASE IN PROJECT GENERATION

No fundamental change in Project operation is proposed. Therefore, the estimated average Project generation and value of Project power will not increase or decrease significantly due to Project operations.

6.0 REMAINING UNDEPRECIATED NET INVESTMENT, OR BOOK VALUE OF THE PROJECT

The net book value of the Project is \$218,586 as of December 31, 2020.

7.0 ANNUAL OPERATIONS AND MAINTENANCE EXPENSES

The average annual operation and maintenance expenses for the Project (2014 – 2020) are approximately \$60,600 as outlined in Table A-10.1-1 above.

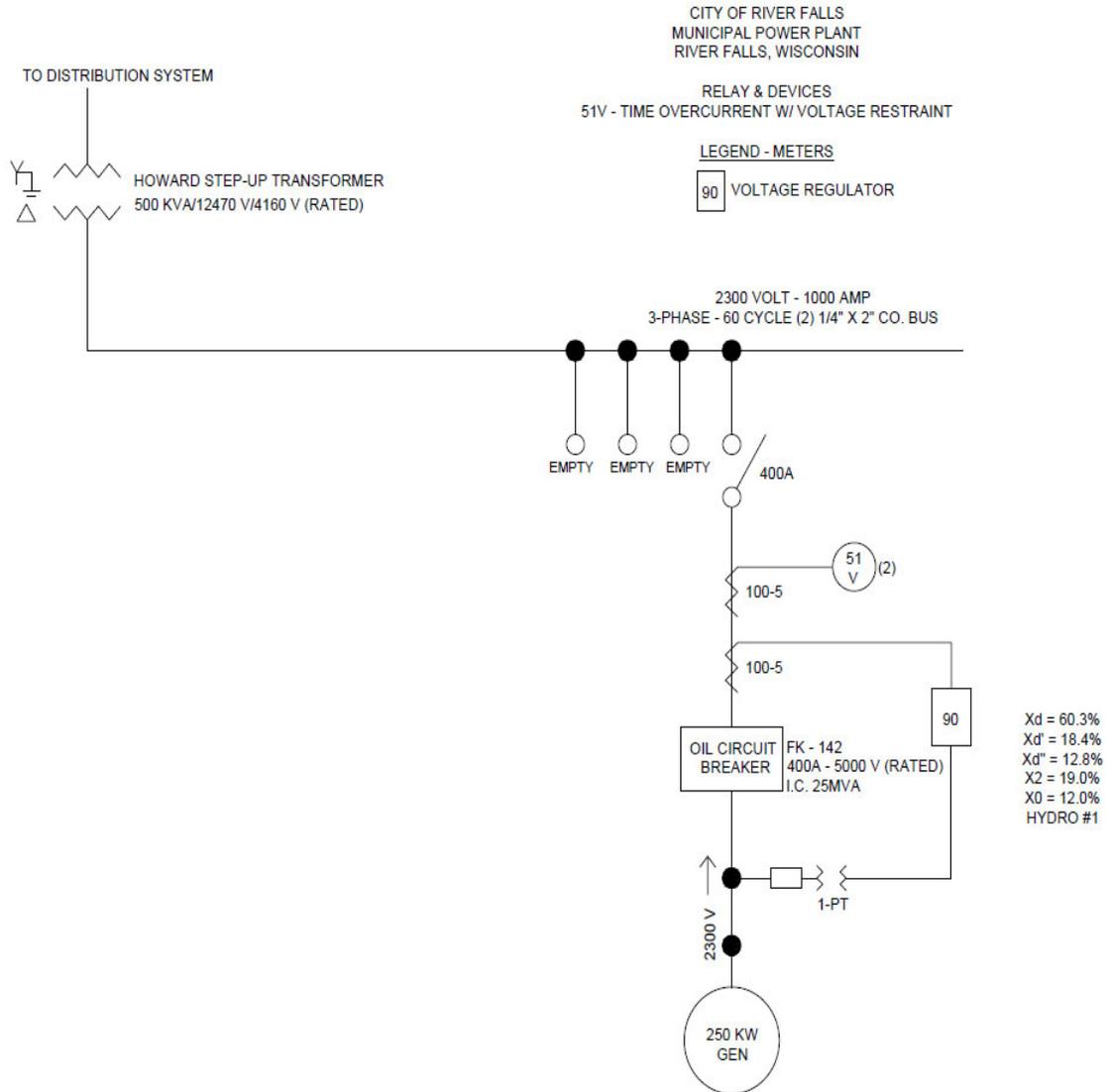
8.0 DETAILED SINGLE-LINE ELECTRICAL DIAGRAM

The single-line electrical diagram for the Project is included in Figure A-8.0-1 below.

9.0 STATEMENT OF SAFE MANAGEMENT, OPERATION, AND MAINTENANCE

The Licensee complies with all safety regulations. The Project undergoes annual FERC dam safety reviews and the Licensee generates regular updates to the Emergency Action Plan.

Figure A-8.0-1. Single-Line Diagram for the Junction Falls Development



APPENDIX A-1: FLOW DURATION CURVES

Figure A-1
Annual Flow Duration Curve at Junction Falls Development, 2002- 2020

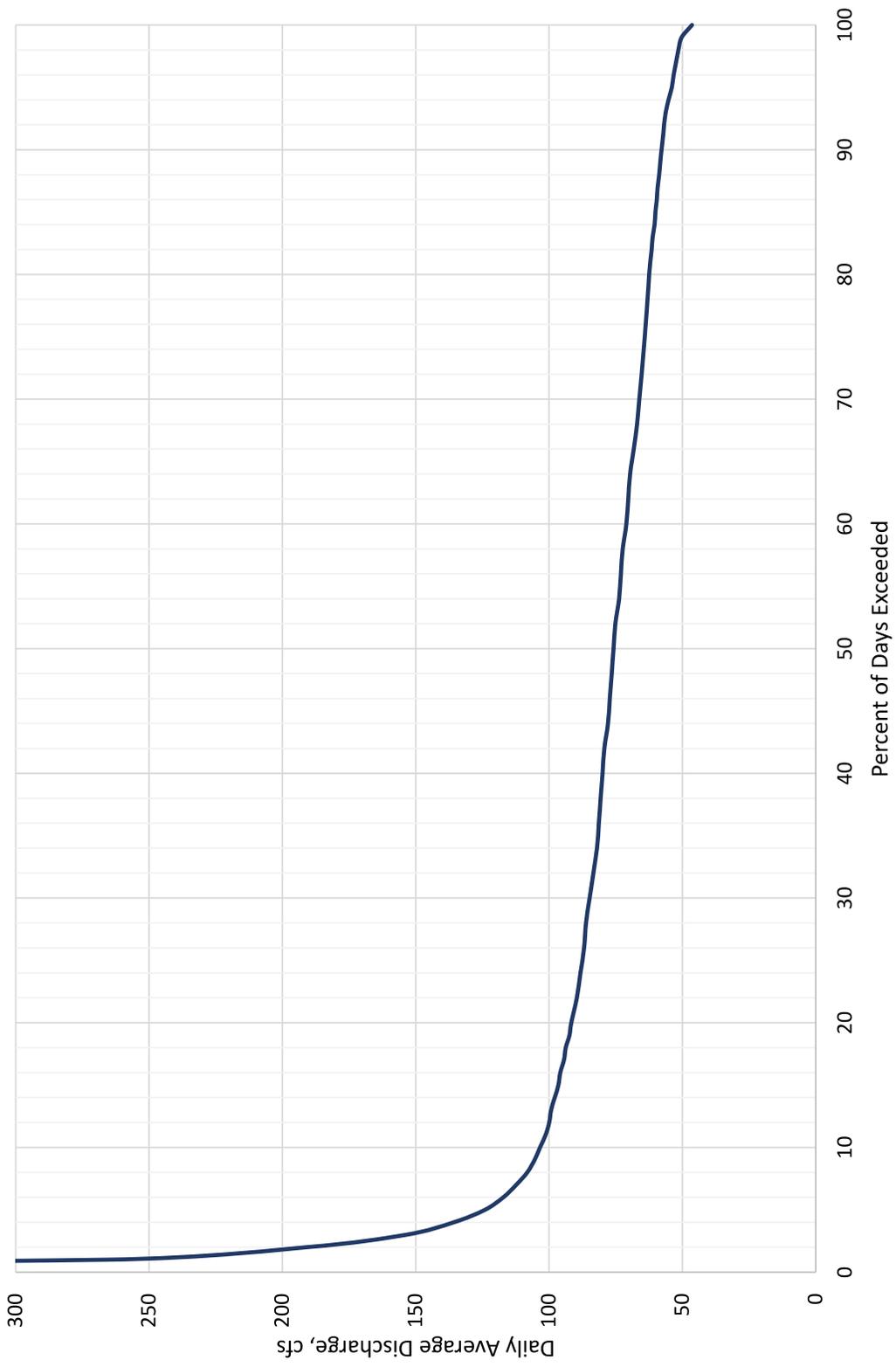


Figure A-2
January Flow Duration Curve at Junction Falls Development, 2002- 2020

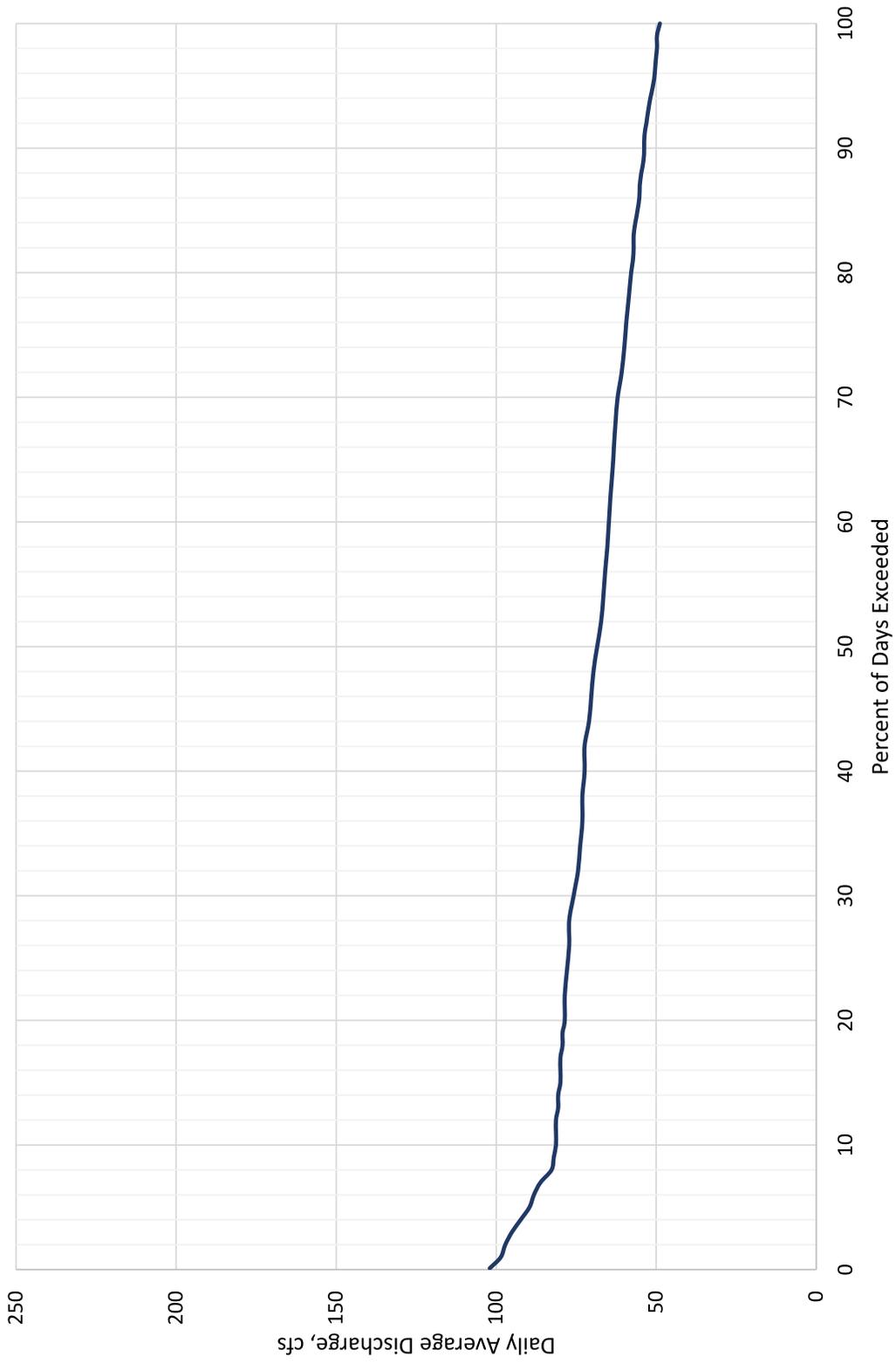


Figure A-3
February Flow Duration Curve at Junction Falls Development, 2002-2020

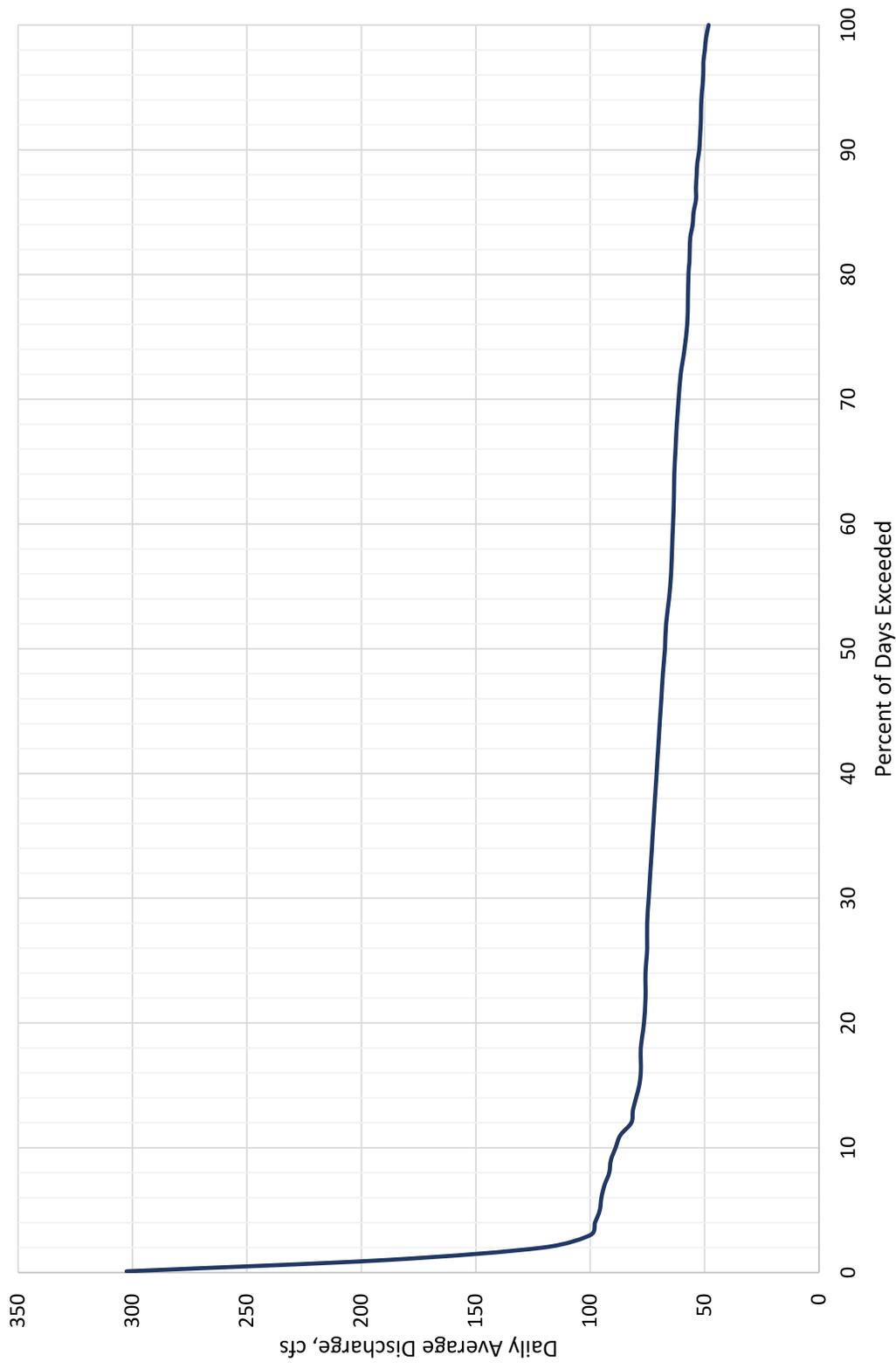


Figure A-4
March Flow Duration Curve at Junction Falls Development, 2002 - 2020

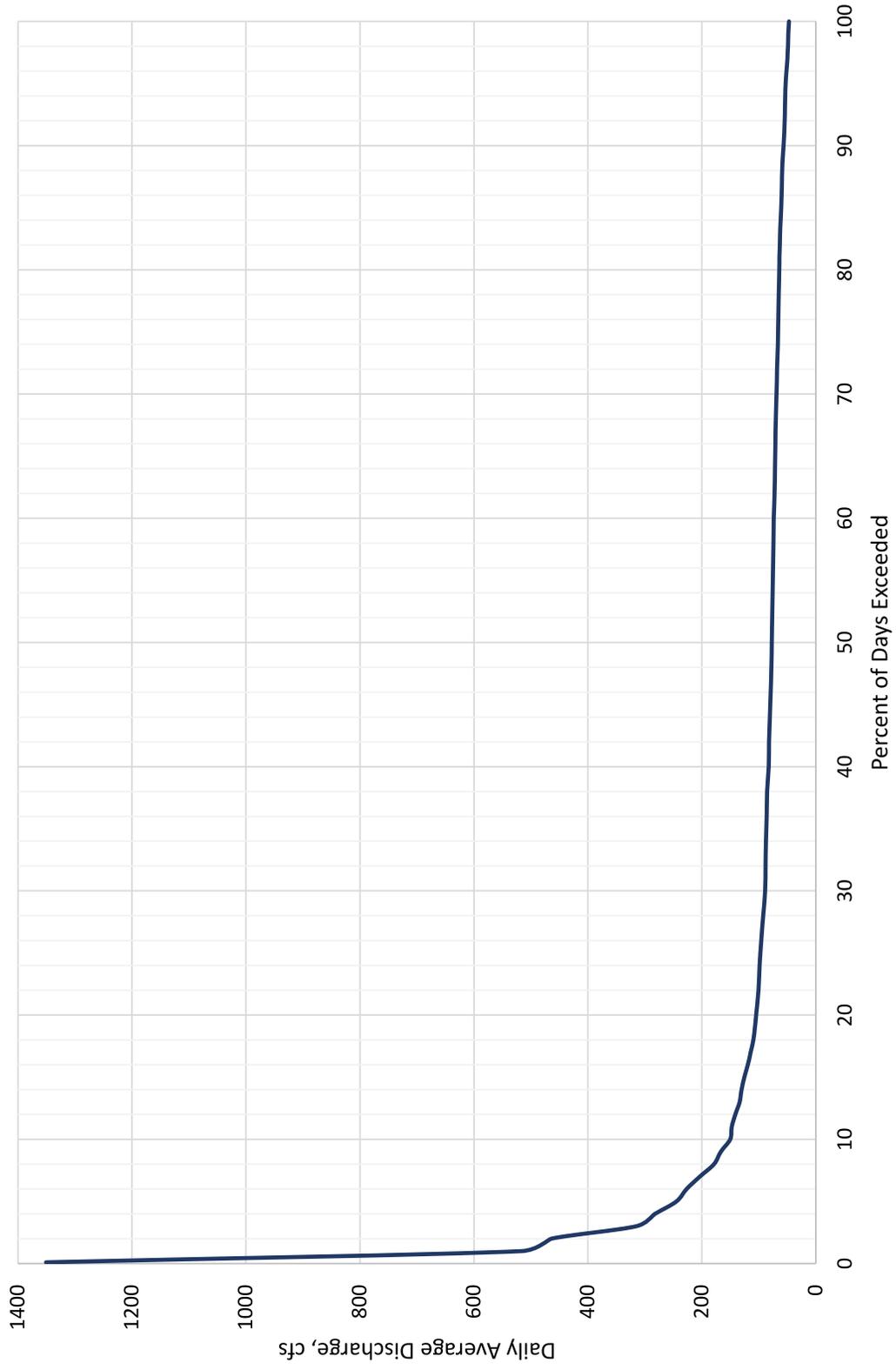


Figure A-5
April Flow Duration Curve at Junction Falls Development, 2002 - 2020

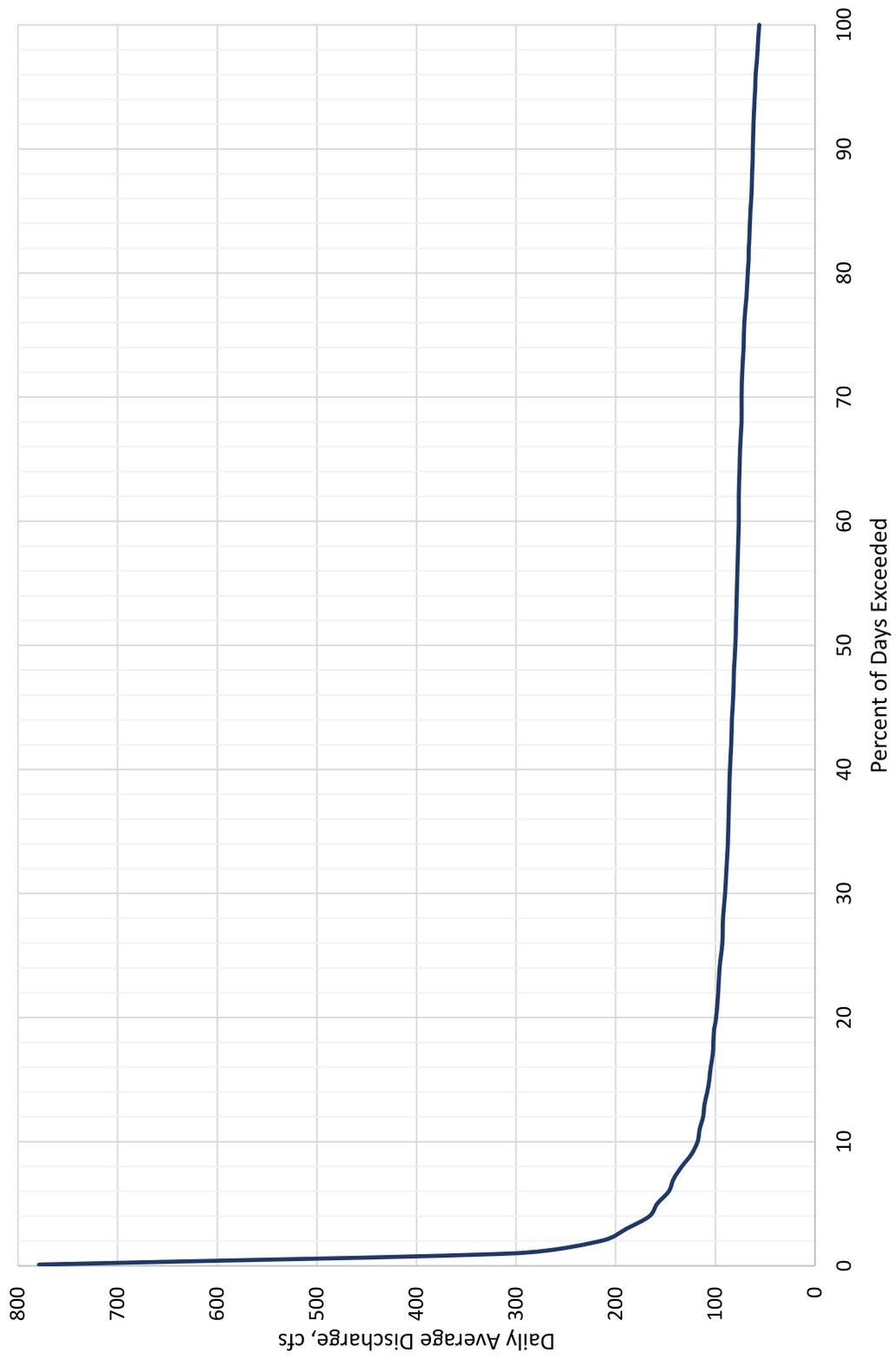


Figure A-6
May Flow Duration Curve at Junction Falls Development, 2002 - 2020

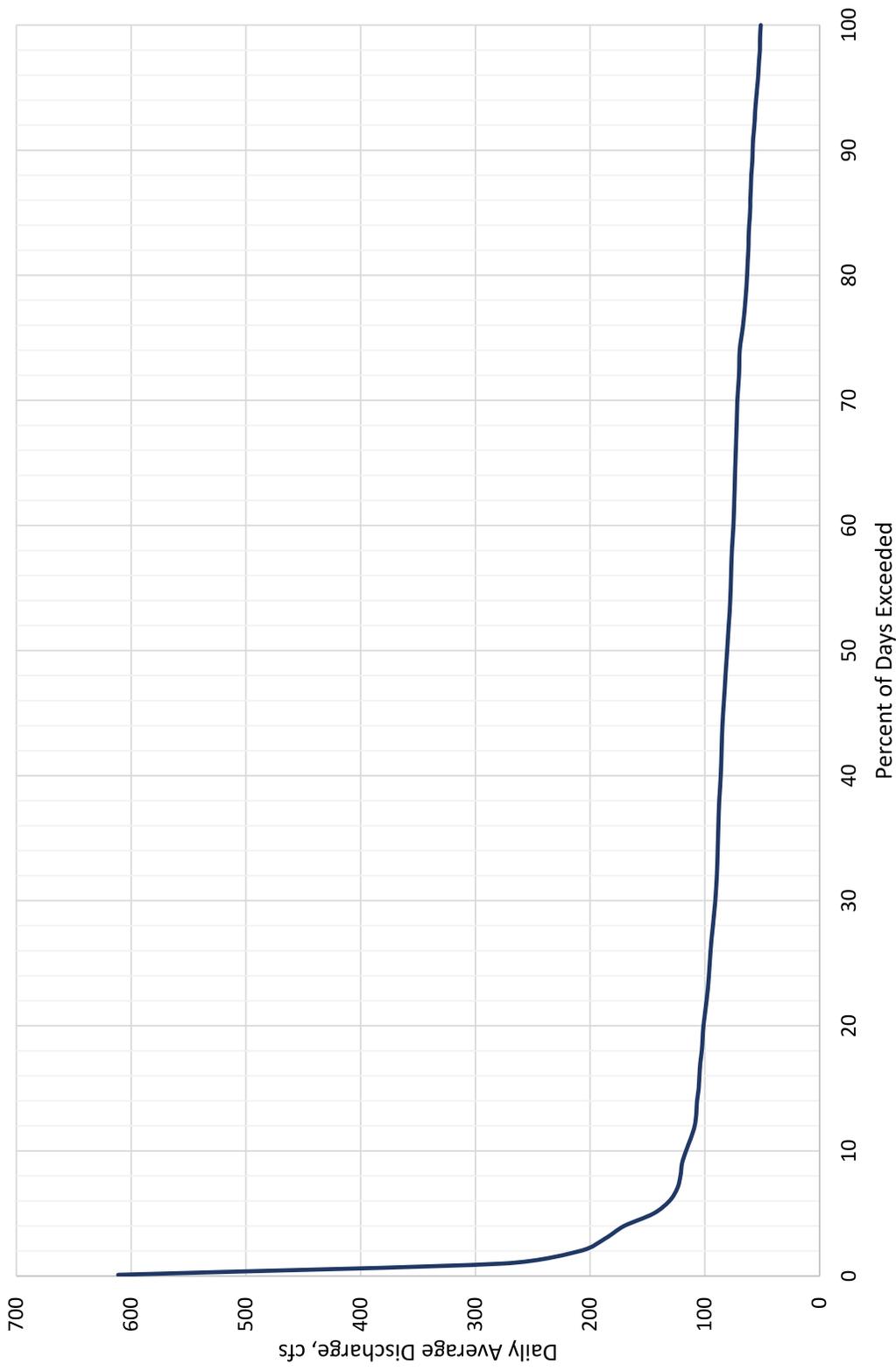


Figure A-7
June Flow Duration Curve at Junction Falls Development, 2002 - 2020

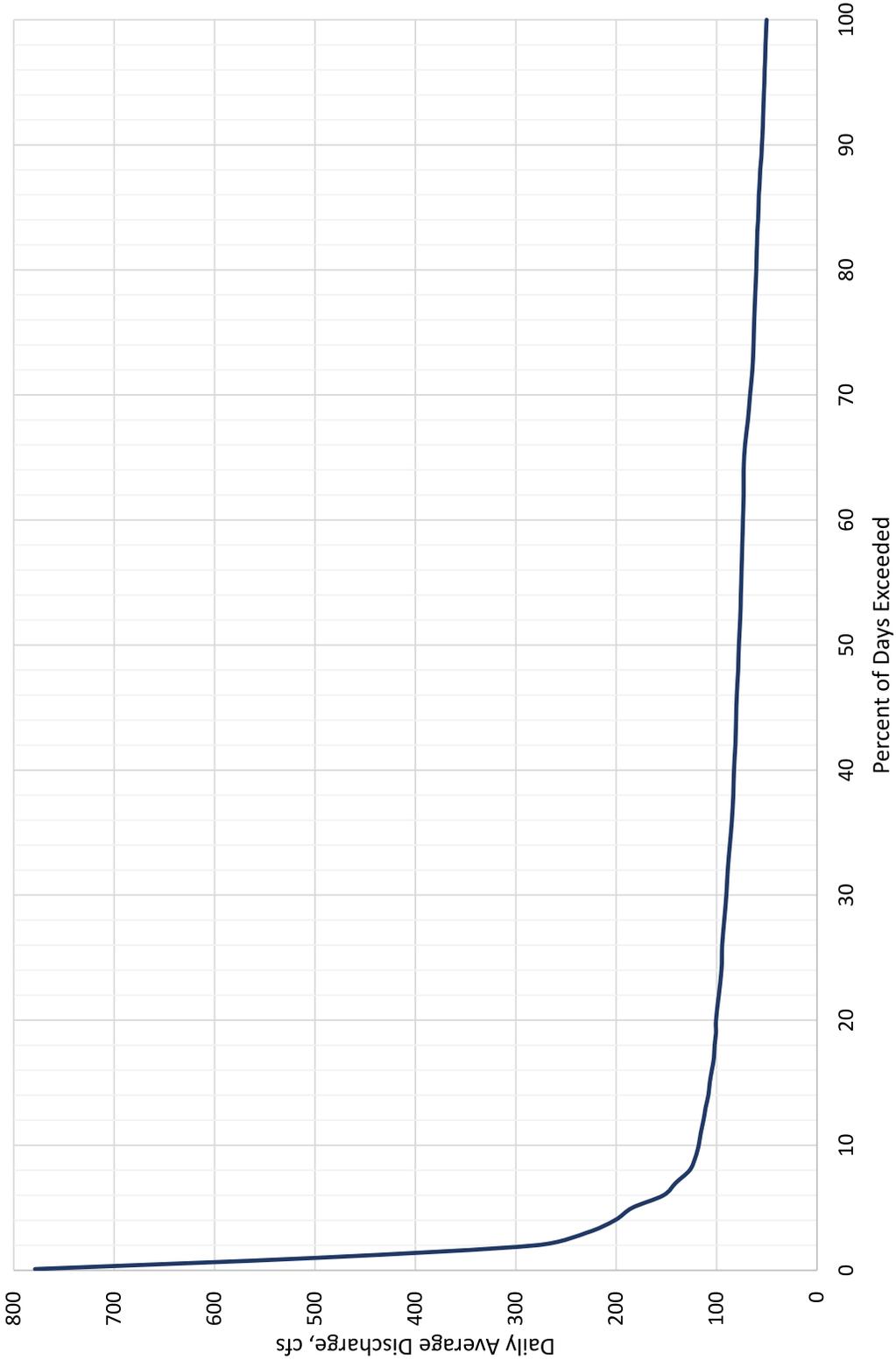


Figure A-8
July Flow Duration Curve at Junction Falls Development, 2002 - 2020

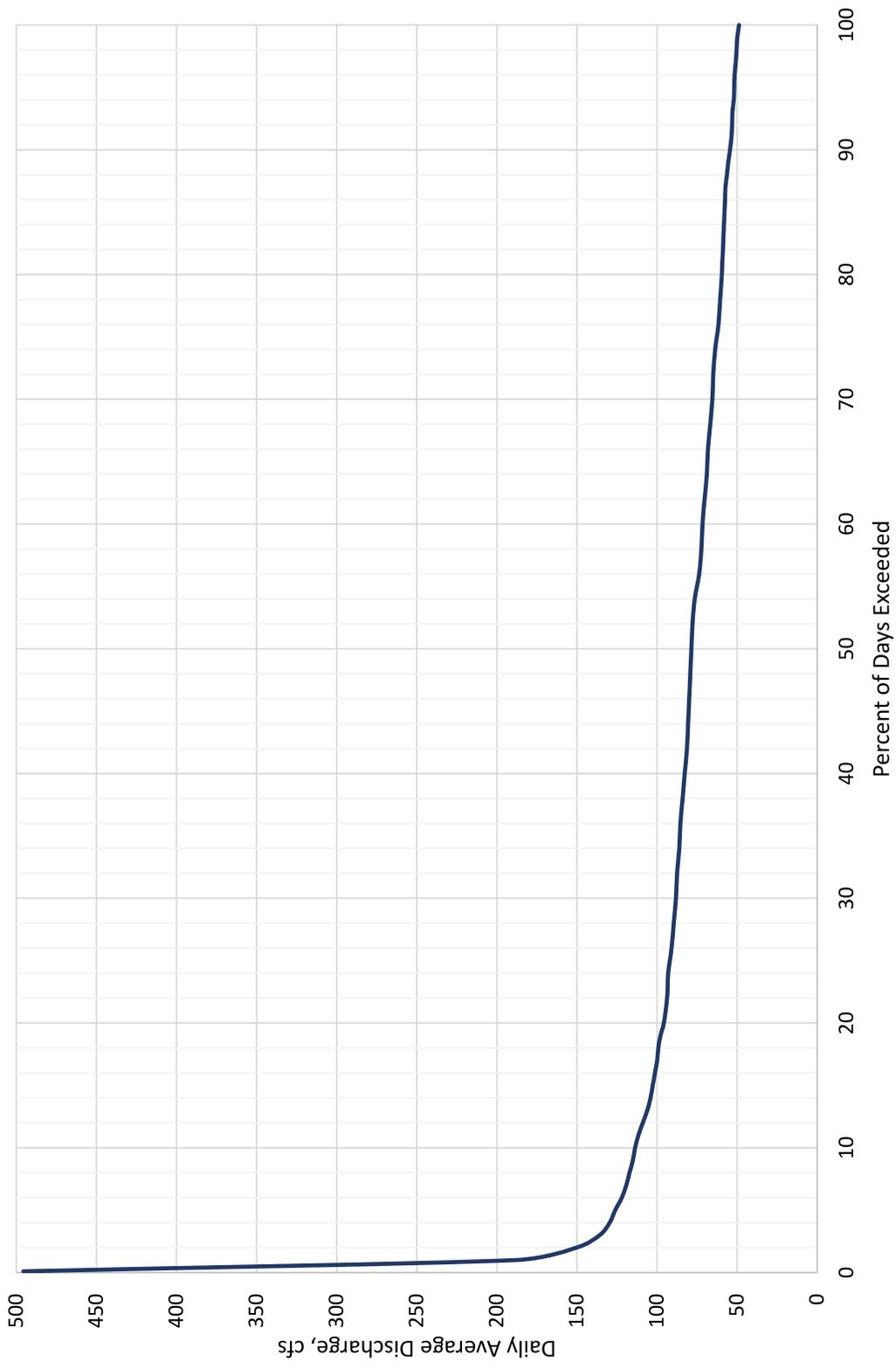


Figure A-9
August Flow Duration Curve at Junction Falls Development, 2002 - 2020

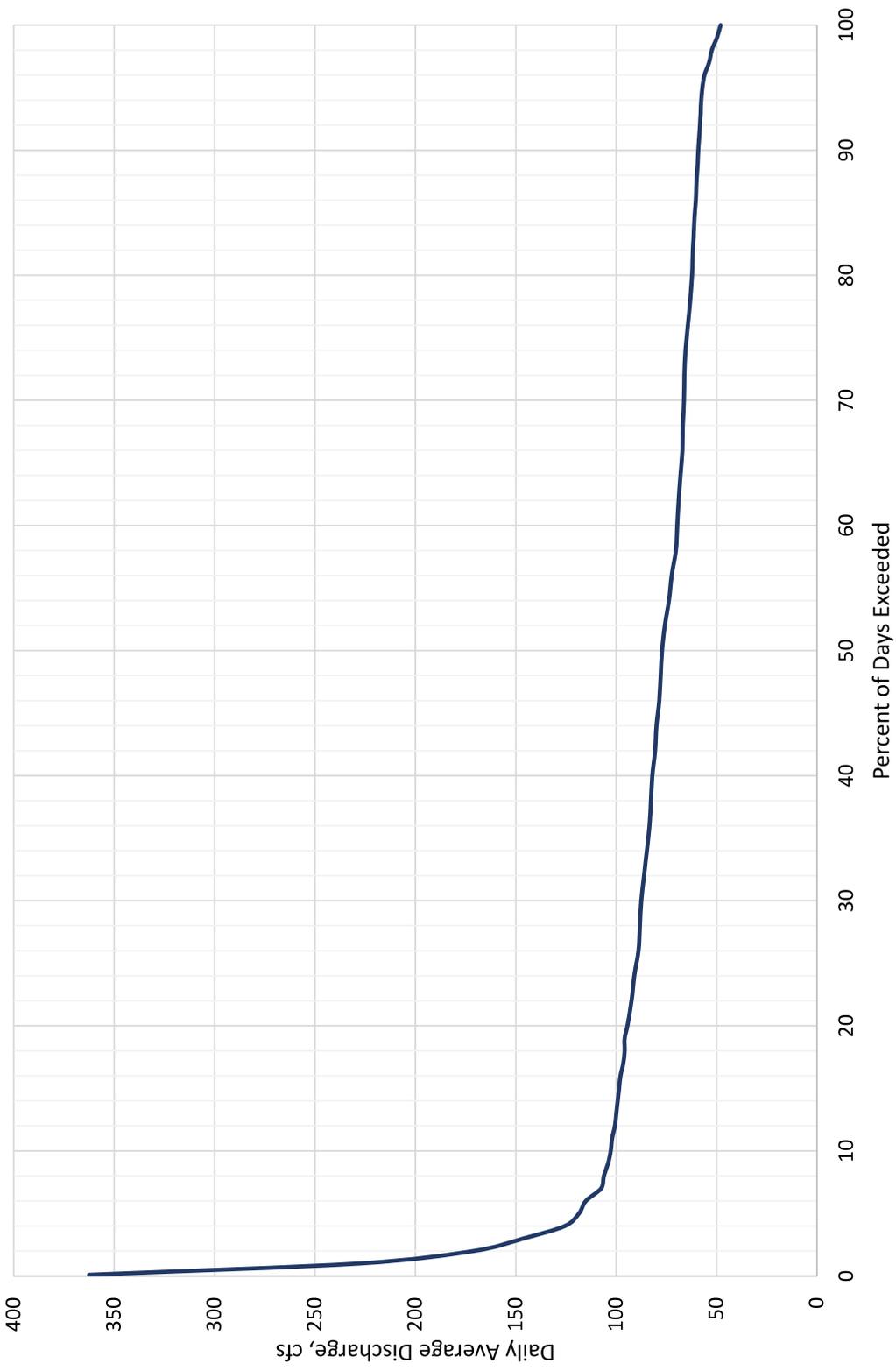


Figure A-10
September Flow Duration Curve at Junction Falls Development, 2002 - 2020

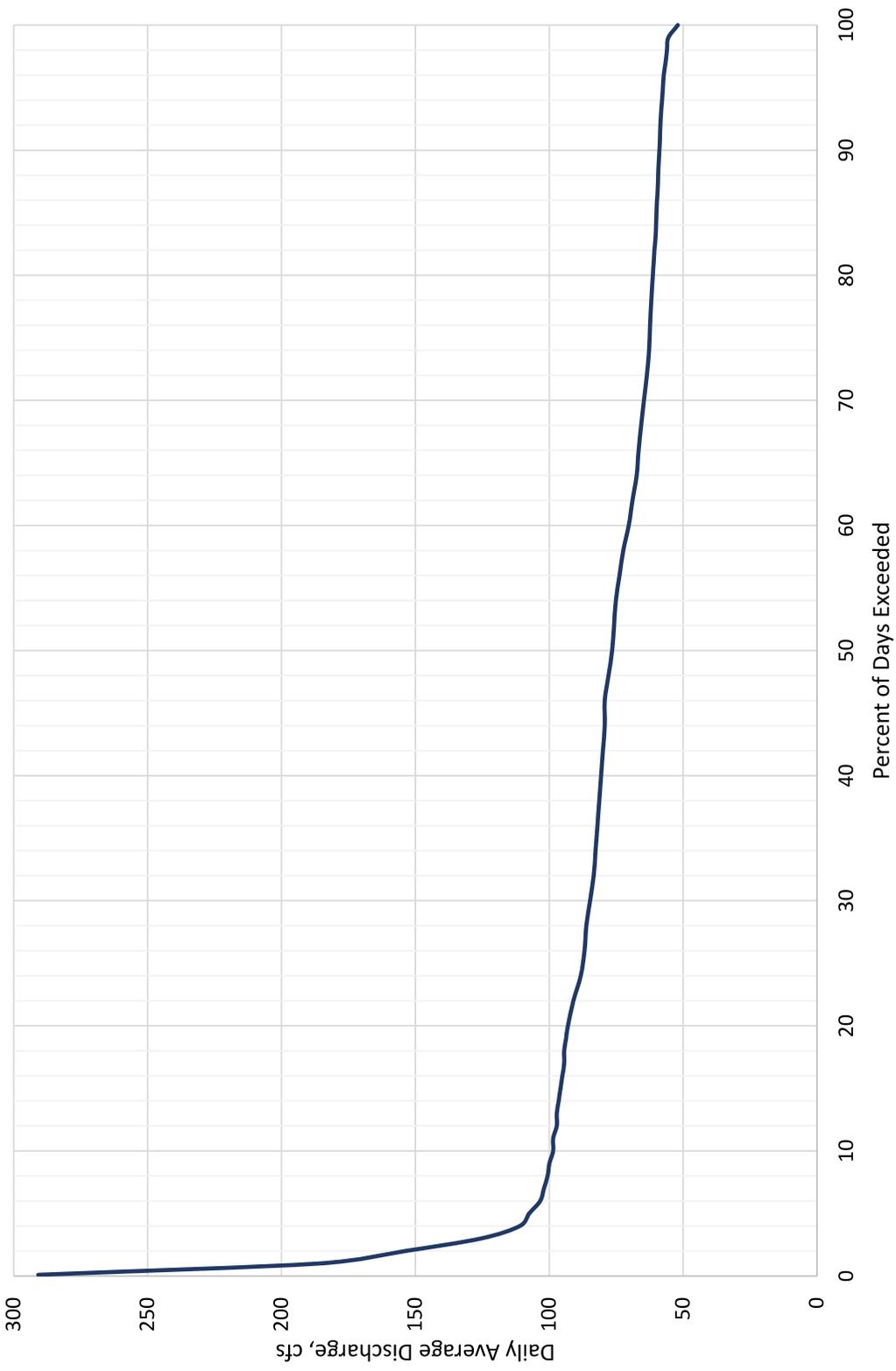


Figure A-11
October Flow Duration Curve at Junction Falls Development, 2002 - 2020

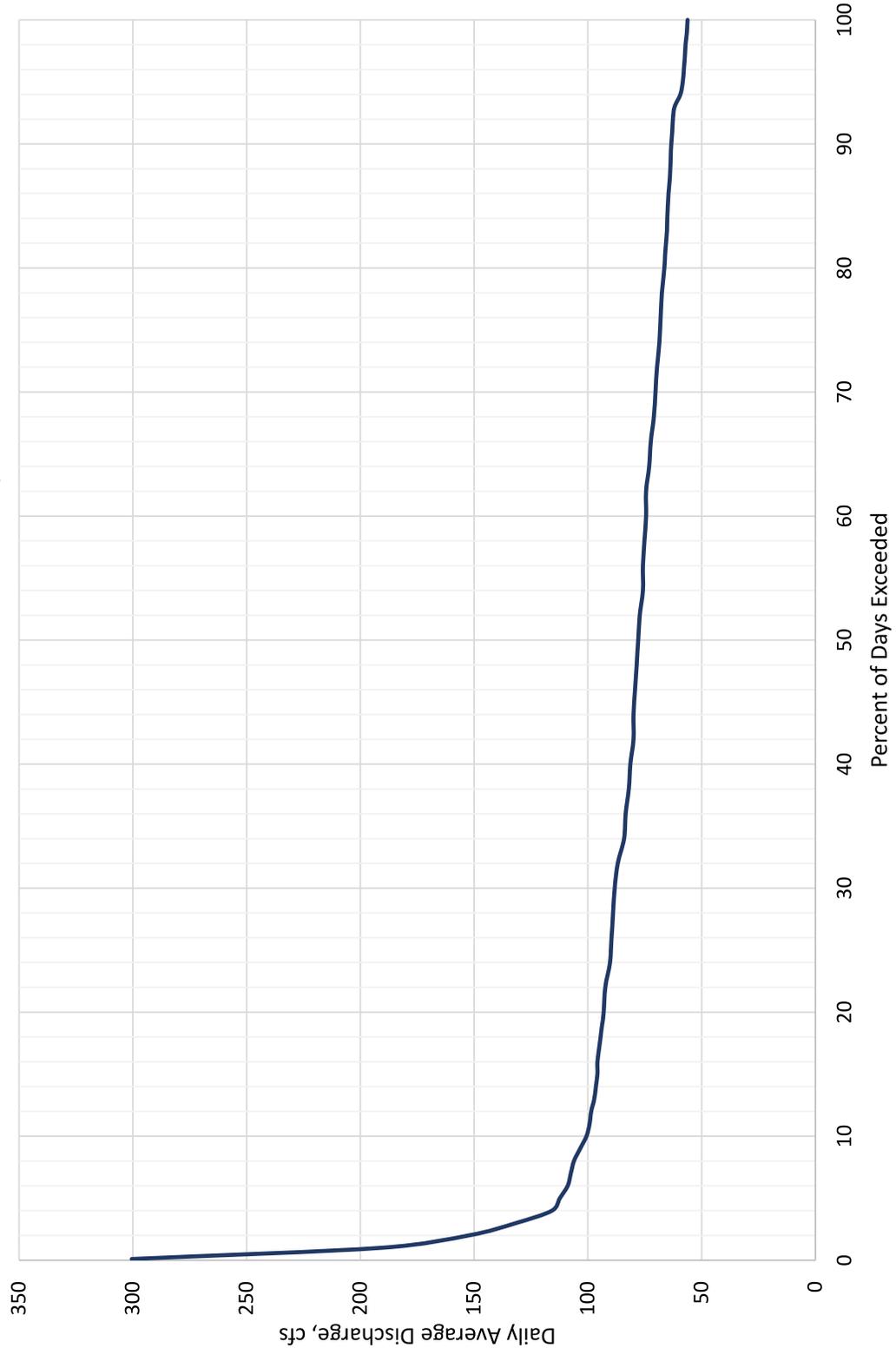


Figure A-12
November Flow Duration Curve at Junction Falls Development, 2002 - 2020

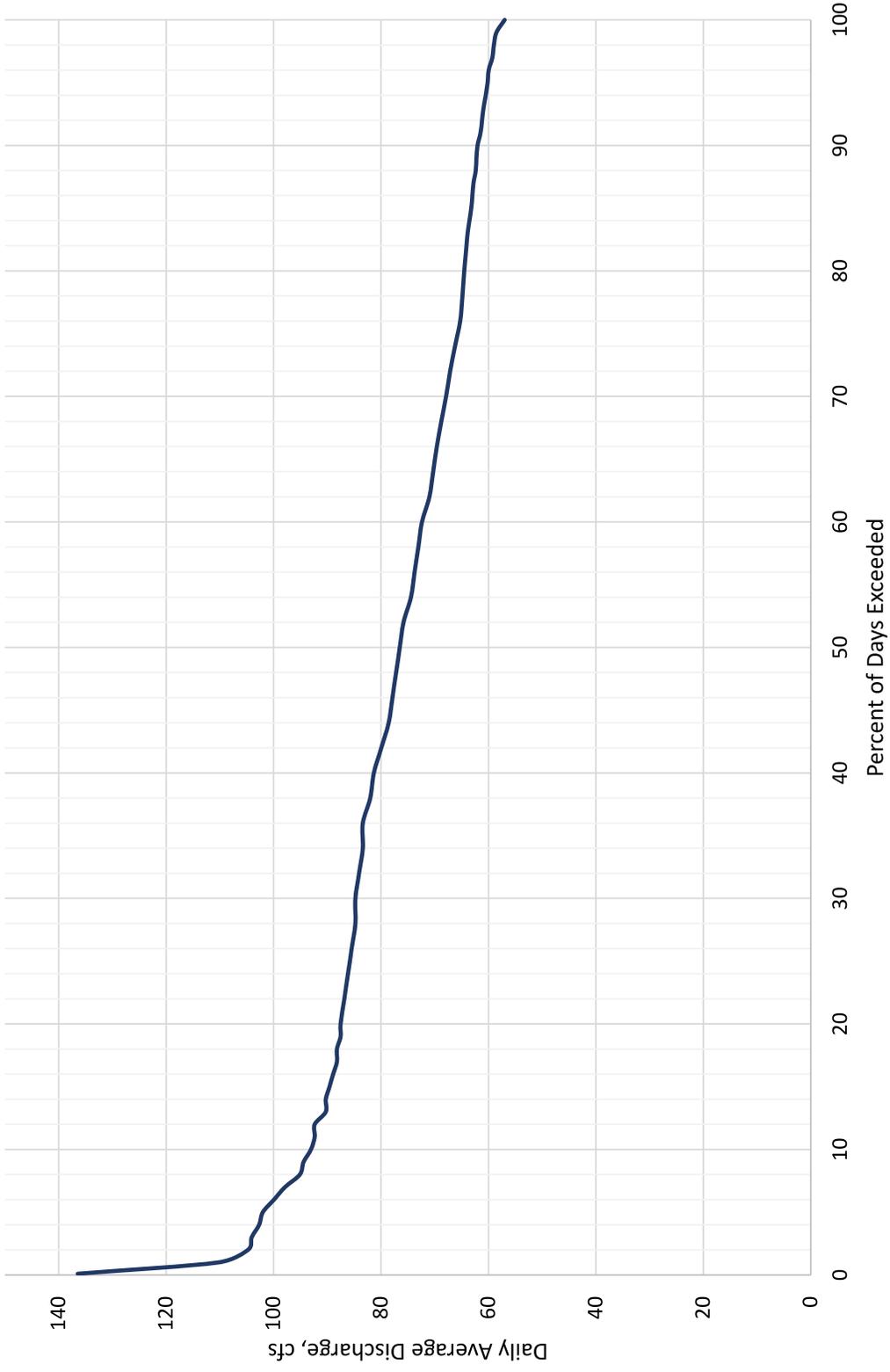


Figure A-13
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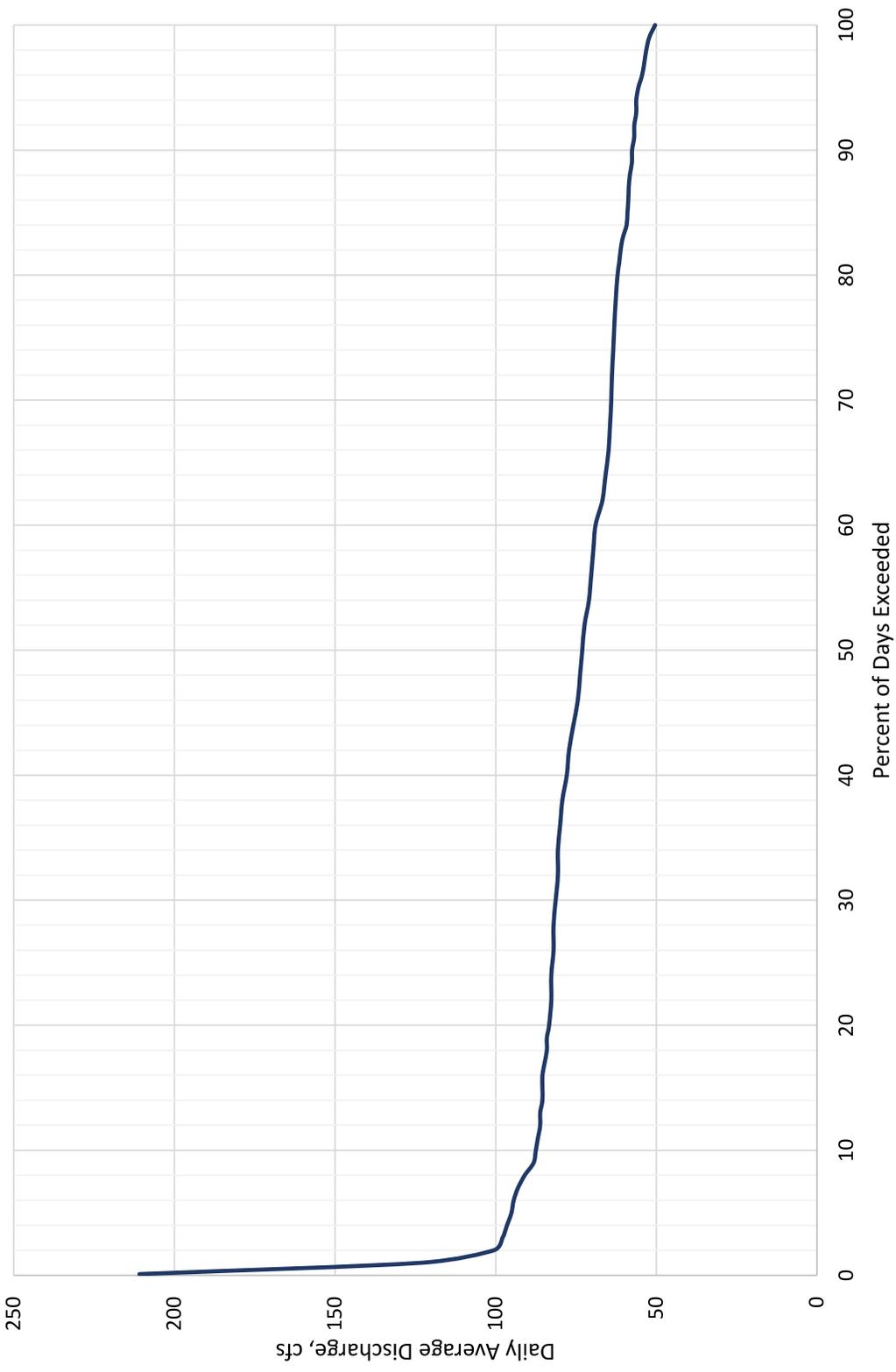


EXHIBIT E
ENVIRONMENTAL REPORT

**RIVER FALLS HYDROELECTRIC PROJECT
PROJECT NO. 10489**

**FINAL APPLICATION FOR LICENSE
FOR MINOR WATER POWER PROJECT**

**EXHIBIT E
ENVIRONMENTAL REPORT**

August 2021

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List of Acronyms

ACHP	Advisory Council on Historic Preservation
AIS	aquatic invasive plant species
APE	Area of Potential Effect
Applicant	City of River Falls Municipal Utilities
CELC Plan	Wisconsin Coastal and Estuarine Land Conservation Plan
cfs	cubic feet per second
Commission	Federal Energy Regulatory Commission
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DATCP	Department of Agriculture Trade and Consumer Protection
DLA	Draft License Application
DO	dissolved oxygen
EAB	emerald ash borer
EAP	Emergency Action Plan
EFH	Essential Fish Habitat
ESA	Endangered Species Act
FE	Federal Endangered
FERC	Federal Energy Regulatory Commission
FLA	Final License Application
FPA	Federal Power Act
ft	feet
FT	Federal Threatened
GPO	Government Printing Office
GSRC	Gulf South Research Corporation
HPMP	Historic Properties Management Plan
ILP	Integrated Licensing Process
IPaC	Information for Planning and Conservation
ISR	Initial Study Report
KRLT	Kinnickinnic River Land Trust
kVA	kilovolt-ampere
kW	kilowatt
Licensee	City of River Falls Municipal Utilities
LWD	large woody debris
Minnesota DNR	Minnesota Department of Natural Resources

MSA	Metropolitan Statistical Area
NAVD88	North American Vertical Datum of 1988
NEPA	National Environmental Policy Act
NGO	non-governmental organizations
NHI	Natural History Inventory
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPS	National Park Service
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places
Opc	The Prairie du Chien Group
Osp	St. Peter Formation
PA	Programmatic Agreement
PAD	Pre-Application Document
PAS	Planning Assistance to States
PME	protection, mitigation and enhancement
Project	River Falls Hydroelectric Project
PSP	Proposed Study Plan
REA	Ready for Environmental Analysis
RFMU	City of River Falls Municipal Utilities
RMP	Recreation Management Plan
RSP	Revised Study Plan
RTE	rare, threatened, and endangered species
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SD1	Scoping Document 1
SD2	Scoping Document 2
SGCN	Species of Greatest Conservation Need
SHPO	Wisconsin State Historic Preservation Officer
SPD	Study Plan Determination
STH	State Trunk Highway
THPO	Tribal Historic Preservation Officer
TRC	TRC Environmental Corporation
TU	Trout Unlimited
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture

USFWS	U.S. Department of the Interior Fish and Wildlife Service
USGS	U.S. Geological Survey
USR	Updated Study Report
WCMP	Wisconsin Coastal Management Program
WHPD	Wisconsin Historic Preservation Database
WHS	Wisconsin Historical Society
WisCALM	Wisconsin Consolidated Assessment and Listing Methodology
Wisconsin DOA	Wisconsin Department of Administration
Wisconsin DNR	Wisconsin Department of Natural Resources
WPDES	Wisconsin Pollutant Discharge Elimination System
WQC	Water Quality Certification

1.0 INTRODUCTION

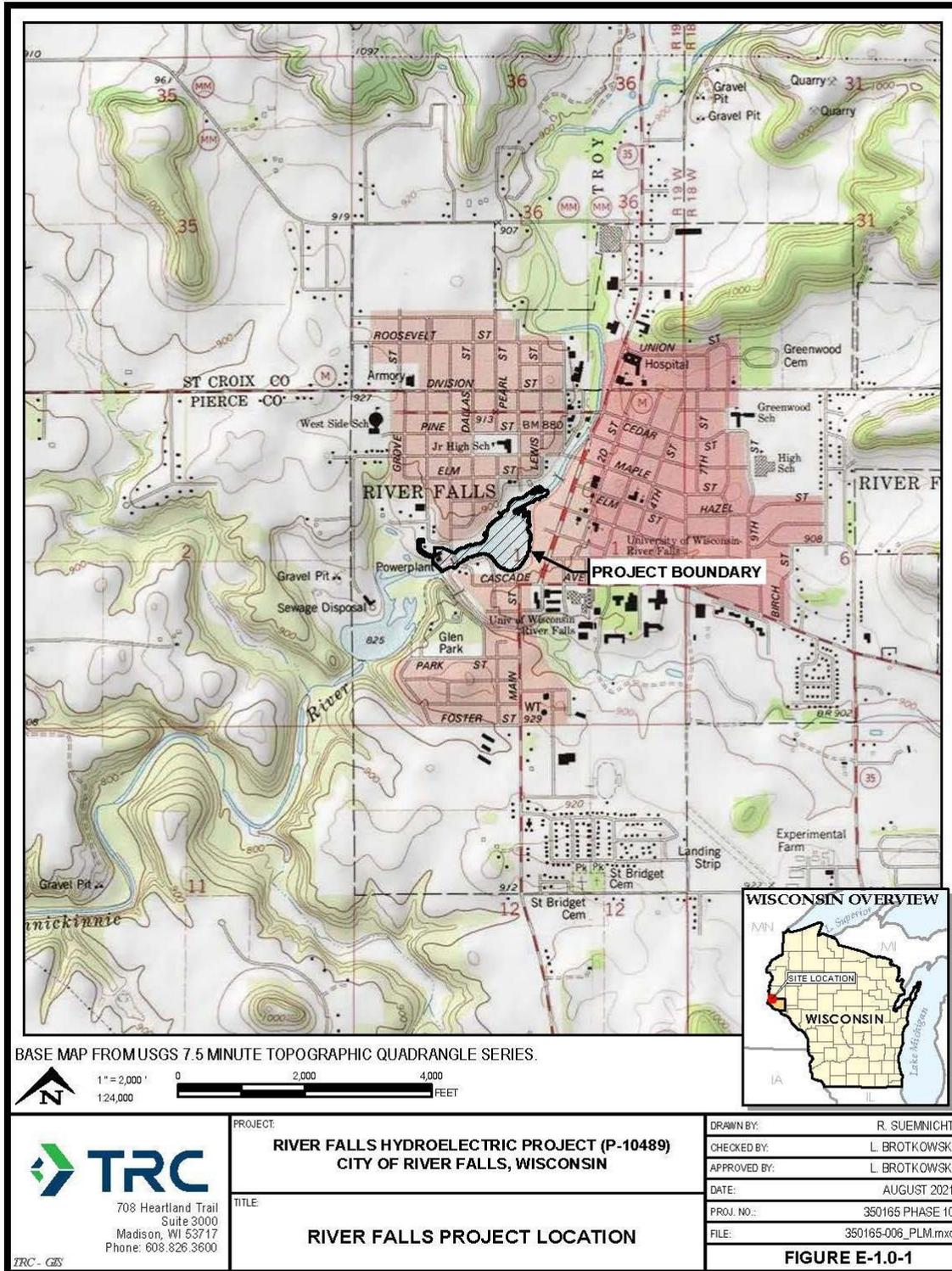
City of River Falls Municipal Utilities (Applicant or Licensee) is using the Federal Energy Regulatory Commission’s (FERC or Commission) Integrated Licensing Process (ILP) for a subsequent license for the River Falls Hydroelectric Project. Pursuant to the process and schedule requirements of the ILP (18 CFR Part 5), the Licensee filed a Draft License Application (DLA) with FERC on April 1, 2021. The DLA was provided to interested parties including participating federal and state agencies, Tribes, non-governmental organizations (NGOs), local governments, and the public for review and comment. The comments that were received on the DLA have been addressed in this Final License Application (FLA) as appropriate; Appendix E-1 summarizes the Licensee’s responses to the comments. In accordance with the FERC regulations, this FLA is being filed two years prior to the expiration of the existing license.

The River Falls Hydroelectric Project currently includes two developments, the Junction Falls Development and the Powell Falls Development. The Licensee proposes to maintain and operate the Junction Falls Development and pursue a subsequent FERC license for this facility. The Licensee has proposed to cease operation and decommission the Powell Falls Development. On July 9, 2021, an application for non-capacity amendment of license was filed with FERC proposing to cease operation and decommission the Powell Falls Development. FERC issued a Notice of Application for Amendment of License, Soliciting Comments, Motions to Intervene, and Protests on July 28, 2021; the deadline for filing comments, motions to intervene and protests is August 27, 2021. Hereinafter, the River Falls Hydroelectric Project (“Project”) will include the Junction Falls Development only and exclude the Powell Falls Development. As such, the Powell Falls Development is not included in Exhibit E; information in Exhibit E includes the Junction Falls Development only.

The Project is located along the Kinnickinnic River in the City of River Falls, in Pierce County, Wisconsin (Figure E-1.0-1). The Kinnickinnic River is approximately 22 miles long and has a drainage area of 174 square miles (USACE 2021). The Kinnickinnic River is a tributary of the St. Croix River, which originates at Upper St. Croix Lake near Solon Springs in Douglas County, Wisconsin and flows approximately 160 miles to join the Mississippi River at Prescott, Wisconsin.

The Junction Falls Development consists of a 114.7-foot-long, 32.5-foot-high concrete uncontrolled stepped spillway; 26 foot long headworks consisting of a wasteway and penstock intake; an impoundment with a surface area of 15.0 acres at the normal pool elevation of 865.6 feet North American Vertical Datum of 1988 (NAVD88); a 170-foot-long, 6-foot-diameter penstock; a powerhouse containing one generating unit rated at 250 kilowatts (kW); a 163-foot-long 2,300 volt interconnection line connecting the powerhouse to a 500 kilovolt-ampere (kVA) Howard step-up transformer and a 480-foot-long 12,470 volt interconnection line exiting the transformer; and appurtenant facilities. The impoundment of the Junction Falls Development is also known as Lake George. The Junction Falls Development is operated in a run-of-river mode.

Figure E-1.0-1. River Falls Project Location



1.1 Purpose of Exhibit E

The purpose of the Exhibit E is to describe the existing environmental, recreational and cultural resources at the Project, and how the existing and proposed Project facilities or operations will affect those resources, including measures for protection, mitigation and enhancement (PME) with respect to each resource affected. Exhibit E also assesses the continuing impacts of existing Project operations and maintenance on resources, including direct, indirect, and cumulative impacts based on information generated during the relicensing studies.

The environmental analysis in this Exhibit E (Section 5) presents the assessment of effects associated with existing and proposed Project operations and facilities and the expected benefits of proposed PME measures. This analysis is based in large part on the results of studies which were requested by agencies and stakeholders and conducted by the Licensee. The studies were conducted in accordance with a study plan that was developed by the Licensee with input from the agencies and other stakeholders.

A Proposed Study Plan (PSP) was filed with FERC on February 22, 2019. The Revised Study Plan (RSP) was filed with FERC on June 11, 2019 that contained modifications intended to address written comments provided by stakeholders, as well as study scope changes resulting from comments and discussions that occurred on March 13, 2019. The RSP was approved with specific revisions by FERC in its Study Plan Determination (SPD) issued on July 11, 2019 and the Determination on Request for Study Modifications for the River Falls Hydroelectric Project issued on May 26, 2020. The Initial Study Report (ISR) was filed with FERC on January 30, 2020 and the Updated Study Report (USR) was filed with FERC on January 29, 2021.

The results of the studies have been incorporated into the analysis of resources included in this Exhibit E. The resource analyses contained in this Exhibit E will provide a foundation for FERC's review of the application and subsequent National Environmental Policy Act (NEPA) analysis. In organizing this Exhibit E, the Licensee relied on FERC's Scoping Document 1 (SD1) and Scoping Document 2 (SD2) for the Project, FERC's requirements for Exhibit E of the License Application (18 CFR § 5.18[b]), and FERC's guidance document, Preparing Environmental Documents: Guideline for Applicants, Contractors, and Staff (FERC 2008).

1.2 Consultation

Consultation with federal and state agencies, Tribes, NGOs and other interested parties was initiated on August 30, 2018, with issuance of the Notice of Intent (NOI) and Pre-Application Document (PAD).

Stakeholders currently included on the Project Interested Parties Mailing list are included in Table E-1.2-1.

Table E-1.2-1. List of Consulted Parties

Federal Agencies	
USACE	U.S. Army Corps of Engineers
BIA	U.S. Department of the Interior, Bureau of Indian Affairs
FERC	Federal Energy Regulatory Commission
NPS	U.S. Department of the Interior National Park Service
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Department of the Interior Fish and Wildlife Service
State Agencies	
DER	Division of Energy Regulation
WCMP	Wisconsin Coastal Management Program
Wisconsin DNR	Wisconsin Department of Natural Resources
WisDOJ	Wisconsin Department of Justice, Attorney General
SHPO	State Historic Preservation Office
Tribes	
	Bay Mills Indian Community of Michigan
	Flandreau Santee Sioux Tribe of South
	Fond du Lac Reservation
	Forest County Potawatomi Community of Wisconsin
	Fort Belknap Reservation of Montana
	Gand Portage Reservation
	Ho-Chunk Nation of Wisconsin
	Kickapoo Tribe of Oklahoma
	Lac Courte Oreilles Band of Chippewa Indians
	Lac du Flambeau Band of Lake Superior Chippewa Indians
	Lower Sioux Indian Community in the State of Minnesota
	Menominee Indian Tribe of Wisconsin
	Oneida Tribe of Indians of Wisconsin
	Prairie Island Indian Community in the State of Minnesota
	Red Cliff Band of Lake Superior
	Santee Sioux Nation, Nebraska
	Sisseton-Wahpeton Oyate of the Lake Traverse Reservation, South Dakota
	Sokagon Chippewa Community
	Spirit Lake Tribe, North Dakota
	St. Croix Band of Lake Superior Chippewa
	Stockbridge-Munsee Band of Mohican Indians
	Stockbridge-Munsee Tribe of Mohican Indians
	Upper Sioux Community of Minnesota
Local Governments	
Hastings	City of Hastings, Minnesota
Hudson	City of Hudson, Wisconsin
River Falls	City of River Falls, Wisconsin

Pierce County	Ellsworth, Wisconsin
Cottage Grove	City of Cottage Grove, Minnesota
Woodbury	City of Woodbury, Minnesota
Stillwater	City of Stillwater, Minnesota
Non-governmental Organizations	
AW	American Whitewater
FOTK	Friends of the Kinni
WGNHS	Wisconsin Geological and Natural History Survey
KRLT	Kinnickinnic River Land Trust
NWRPC	Northwest Regional Planning Commission
RAW	River Alliance of Wisconsin
SCRA	St. Croix River Association
TU	Trout Unlimited, Kiap TU Wish Chapter
TU	Trout Unlimited Driftless Area Restoration Effort
WCWRU	Wisconsin Cooperative Wildlife Research Unit
WVIC	Wisconsin Valley Improvement Company
	JDFossum Environmental Consulting
Individuals	
	Patricia La Rue
	Robert Chambers
	Angie Tornes
Property Owners	
	Foster Associates, Inc c/o Judie Babcock
	River City Rentals of Wisconsin, LLC

The NOI and PAD for the Project were issued to stakeholders and filed with FERC on August 30, 2018. FERC subsequently issued SD1 on October 25, 2018 and held two agency and public scoping meetings on November 15 and 16, 2018. The Commission revised the SD1 after reviewing the comments filed during the scoping commenting period, which ended December 28, 2018. A Project site visit was held on November 15, 2018. FERC issued SD2 on February 7, 2019. In the SD2, the Commission identified the following potential resource issues for the Junction Falls Development to be evaluated during the environmental analysis of the proposed relicensing pursuant to the NEPA:

- Geologic and Soils Resources
 - Effects of continued Project operation on sediment transport within and downstream of the Project.

- Aquatic Resources
 - Effects of continued Project operation on water quality within and downstream of the Project.

- Effects of continued Project operation on aquatic species and habitat in the impoundment and downstream of the Project.
- Terrestrial Resources
 - Effects of continued Project operation on riparian, littoral, and wetland habitat and associated wildlife.
- Threatened and Endangered Species
 - Effects of continued Project operation and maintenance on the following federally listed threatened and endangered species: (1) northern long-eared bat; (2) prairie bush-clover; and (3) the Higgins eye, snuffbox, and spectaclecase mussels.
- Recreation
 - Effects of the continued Project operation and maintenance on public access and recreational opportunities at the Project.
 - Adequacy of existing and proposed public access and recreational facilities at the Project to meet current and future recreational demand.
- Cultural Resources
 - Effects of continued Project operation on properties that are included in or eligible for inclusion in the National Register of Historic Places.
- Developmental Resources
 - Effect of the proposed environmental measures costs on Project's economics.

On February 11, 2019, the Licensee filed its PSP for six studies in support of its proposal. The PSP included studies on hydrology, aquatic resources, water quality, terrestrial resources, recreation, and cultural resources.

The Licensee held a study plan meeting on March 13, 2019 and the Licensee filed its RSP on June 11, 2019. On July 10, 2019 FERC issued a Revised Process Plan and Schedule for the Project and issued a SPD on July 11, 2019. The SPD approved the RSP with staff-recommended modifications. Five studies were approved as proposed, four were approved with modifications, and six studies requested by stakeholders were not required. The Licensee completed all studies required according to the Commission's SPD.

Study results from the first year of studies and the draft Decommissioning Plan were summarized in the ISR, which was filed with FERC on January 30, 2020. The Initial Study Report Meeting was held on February 13, 2020. Comments on the ISR and meeting summary were issued by Commission staff on March 27, 2020. River Falls Municipal Utilities (RFMU) submitted a Response to Stakeholder Comments on the Initial Study Report on April 30, 2020 and FERC issued a Determination on Request for Study Modifications for the River Falls Hydroelectric Project on May 26, 2020, which included the request for a sediment study.

The USR was filed on January 29, 2021. The USR provided additional study results from the second year of studies. The USR meeting was held virtually on February 9, 2021.

Studies conducted are listed under Table E-1.2-2.¹

Table E-1.2-2. List of Studies Completed

Study
Hydrologic and Hydraulic Evaluation
Water Quality Study
Lake George Shoreline Habitat Assessment
Mussel Survey
Aquatic Invasive Species Survey
Wetland Riparian Terrestrial Resources Survey
Riverine Habitat Evaluation below Powell Falls
Recreational Facility Inventory and Recreational Use Assessment
Architectural and Archaeological Surveys
Sediment Study
Decommissioning Plan

1.3 Response to Draft License Application Comments

The Licensee filed the DLA with FERC and stakeholders on April 1, 2021. Written comments on the DLA are summarized in Appendix E-1, with an explanation of how comments were addressed as appropriate in the FLA.

1.4 REA Notice

Once FERC has determined that the Licensee’s FLA meets all filing requirements, any deficiencies with the application have been resolved, and no additional information is required, FERC will issue the notice of acceptance and Ready for Environmental Analysis (REA).

The acceptance/REA notice solicits comments, protests, and interventions - along with recommendations, preliminary terms and conditions, and preliminary fishway prescriptions - including all supporting documentation. Comments, protests, and interventions must be filed within 60 days of notice. The Licensee will then have 45 days to respond to submitted comments

¹ Only studies specific to the relicensing of the Junction Falls Development are discussed hereinafter. Study results specific to Powell Falls Development decommissioning and dam removal are not included in Exhibit E.

(105 days from the REA notice). When the application is accepted, FERC provides public notice in the Federal Register, local newspapers, and directly to resource agencies and Tribes. In its notice, FERC invites protests and interventions and requests the final fish and wildlife recommendations, prescriptions, mandatory conditions, and comments from the appropriate resource agencies and Tribes.

1.5 References

- Federal Energy Regulatory Commission (FERC). 2008. Preparing Environmental Documents Guidelines for Applicants, Contractors, and Staff. Washington, DC. September, 2008. Available at <https://www.ferc.gov/sites/default/files/2020-07/eaguide.pdf>
- U.S. Army Corps of Engineers (USACE) 2021. January. Kinnickinnic River, Wisconsin, Hydraulic and Hydrologic Analysis, River Falls Hydroelectric Project, Planning Assistance to States (PAS). Available in the Updated Study Report: https://elibrary.ferc.gov/eLibrary/docinfo?accession_num=20210129-5114

2.0 STATUTORY AND REGULATORY REQUIREMENTS

2.1 Section 401 of the Clean Water Act

Pursuant to Section 401 of the 1972 Amendments to the Federal Water Pollution Control Act, Public Law 92-500, the Licensee is required to apply for a Section 401 Water Quality Certification (WQC) from the Wisconsin Department of Natural Resources (Wisconsin DNR).

As part of the ILP, the Licensee consulted with the Wisconsin DNR throughout the relicensing process. The Licensee will file an Application for WQC with Wisconsin DNR for this relicensing within 60 days of FERC’s Notice of Acceptance and REA.

2.2 Endangered Species Act

Section 7 of the Endangered Species Act (ESA) (16 U.S.C. § 1536) requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of the critical habitat of such species. State listed species are also protected under Wisconsin’s Endangered Species Law (s. 29.604 Wis. Stats.).

As part of the ILP, the Licensee consulted with the U.S. Department of the Interior Fish and Wildlife Service (USFWS) and Wisconsin DNR throughout the relicensing process to assess potential Project effects on federal and state listed threatened and endangered species. There are no federal or state listed species known to occur within the Project Boundary. Rare, threatened and endangered species are discussed in Section 5.6 of this Exhibit E.

2.3 Magnuson-Stevens Fishery Conservation and Management Act

In 1996 the U.S. Congress recognized the increasing pressure on marine resources in the country and addressed these issues in its reauthorization of the Magnuson Fishery Conservation and Management Act, now known as the Magnuson-Stevens Act (16 U.S.C. § 1801 *et seq.*). This Act required the eight Regional Fishery Management Councils, in collaboration with the National Oceanic and Atmospheric Administration (NOAA), to give heightened consideration to Essential Fish Habitat (EFH) in resource management decisions. Congress defines EFH as “those waters and substrates necessary to fish for spawning, breeding, feeding or growth and maturity.” The designation and consideration of EFH seeks to minimize adverse effects on habitat caused by fishing and non-fishing activities.

Before a federal agency proceeds with an activity that may adversely affect a designated EFH (e.g., relicensing of a hydropower project), the agency must: 1) consult with NOAA Fisheries and, if requested, the appropriate Council for the recommended measures to conserve EFH; and 2) reply within thirty days of receiving EFH recommendations. The agency response must include

proposed measures to avoid or minimize adverse impacts on the habitat, or alternatively, an explanation if the agency cannot adhere to the recommendation from NOAA Fisheries.

There are no EFH designations in Wisconsin, and this Act does not apply to the Project.

2.4 Coastal Zone Management Act

Under section 301 (c)(3)(A) of the Coastal Zone Management Act (CZMA) (16 U.S.C. § 1456), FERC cannot issue a license for a project within or affecting a state’s coastal zone unless the state CZMA agency concurs with the license applicant’s certification of consistency with the state’s CZMA program, or the agency’s concurrence is conclusively presumed by its failure to act within 180 days of its receipt of the applicant’s certification.

The Wisconsin Coastal Management Program (WCMP) is responsible for implementing the State of Wisconsin’s coastal management program. The boundaries of the coastal zone subject to the WCMP includes the 15 counties with frontage on Lake Superior or Lake Michigan. The geographic extent for the “coastal area” as defined by the Wisconsin Coastal and Estuarine Land Conservation Plan (CELC Plan) includes: “Lands draining into Lakes Michigan or Superior and within the counties bordering Lakes Michigan or Superior” (WCMP, 2011). The Licensee requested a CZMA compliance determination from Wisconsin Coastal Management Program (WCMP) on March 15, 2021 (located in Appendix E-2). No response has been received from WCMP as of the date of this filing, although it is unlikely a review will be required because the Project is not located in Wisconsin’s designated coastal area.

2.5 National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, (16 U.S.C. § 470s) requires FERC to take into account the effect of its undertakings on historic properties. In this case the undertaking includes the issuance of a federal license for the continued operation of the Project. Section 106 of the NHPA is implemented through the Advisory Council on Historic Preservation (Council regulations “Protection of Historic Properties” (36 CFR Part 800)). For hydropower licensing actions, FERC typically completes Section 106 by entering into a Programmatic Agreement or Memorandum of Agreement with the Licensee, the Advisory Council on Historic Preservation (ACHP), and the state and Tribal historic preservation offices. In 1993, a Programmatic Agreement (PA) was signed by FERC, the ACHP, the state of Wisconsin State Historic Preservation Officer (SHPO), and the state of Michigan SHPO.² The PA identifies pre-licensing procedures for identifying and evaluating cultural resources, and a post licensing process

² The PA is the Programmatic Agreement among the Federal Energy Regulatory Commission; the Advisory Council on Historic Preservation; the State of Wisconsin, State Historic Preservation Officer; and the State of Michigan, State Historic Preservation Officer; for Managing Historic Properties that May Be Affected by New and Amended Licenses Issuing for the Continued Operation of Existing Hydroelectric Projects in the State of Wisconsin and Adjacent Portions of the State of Michigan. This was executed in December 1993.

to develop a Historic Resources Management Plan (herein called a Historic Properties Management Plan [HPMP]). The PA applies to all new and amended hydroelectric licenses in Wisconsin and adjacent portions of Michigan.

Cultural resources at the Project are discussed in Exhibit E, Section 5.8. Consistent with the PA’s pre-licensing process, the Licensee consulted with the Wisconsin Historical Society (WHS) and the Tribes that may have an interest in the Project, as appropriate, throughout the relicensing process. A draft HPMP was included in the DLA; no comments were received. The Licensee is proposing to redefine the Area of Potential Effect (APE) to match the Project Boundary depicted on Exhibit G herein. As such, the draft HPMP has been revised to include an APE that matches the Project Boundary. The revised HPMP is included in Appendix E-5. The HPMP contains specific steps to be taken by the Licensee to protect and preserve the historic properties identified at the Project over the term of the subsequent license and conforms with the PA requirements. With the implementation of the HPMP, the continued operation of the Project as proposed by the Licensee will have no adverse effects on cultural resources at the Project.

Regarding Tribal resources, the Licensee is not aware that the Project affects any Native American Tribe.

2.6 Wild and Scenic Rivers and Wilderness Acts

The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. § 1271 et seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. Rivers are classified as wild, scenic, or recreational.

The Wilderness Act of 1964 [Public Law 88-577 (16 U.S.C. 1131-1136)] was enacted to establish a National Wilderness Preservation System for the permanent good of the whole people, and for other purposes.

No nationally designated wild and scenic river or wilderness areas are within the Project Boundary. The St. Croix River, located approximately 10 river miles downstream of the Project, is a designated National Scenic Riverway and is described in greater detail in Section 5.7 of this Exhibit E.

2.7 Bald and Golden Eagle Act

The Bald and Golden Eagle Protection Act was originally enacted in 1940 (16 U.S.C 668-668d) to protect eagles from human-induced alterations and human interactions. As defined in 50 CFR, Part 22, permits are required for the “taking” (meaning to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb), possession, and transportation with the United States of bald eagles and golden eagles and their parts, nests, and eggs.

There are no eagle nests in the Project Boundary, and eagles were not raised as a resource issue of concern during consultation of this relicensing. Bald eagles are discussed in Section 5.6 of this Exhibit E.

3.0 PROPOSED ACTION AND ALTERNATIVES

FERC issued a license to operate the River Falls Hydroelectric Project on September 27, 1988, which was set to expire on August 31, 2018.³ On July 6, 2015, the Licensee requested a five-year license extension from FERC. On March 17, 2016, FERC granted the Licensee a license term extension of five years, extending the license term to August 31, 2023.⁴ The proposed action consists of the issuance of a subsequent FERC license to the City of River Falls Municipal Utilities for the continued operation and maintenance of the Junction Falls Development for the River Falls Hydroelectric Project. The Licensee has proposed to cease operation and decommission the Powell Falls Development. On July 9, 2021, an application for non-capacity amendment of license was filed with FERC proposing to cease operation and decommission the Powell Falls Development; as such, the Powell Falls Development is not included in the alternatives discussion below.

3.1 No Action Alternative

The no action alternative means that the Project (defined as the Junction Falls Development only) would continue to operate as authorized by the current license. Existing facilities would remain in place and existing PME measures would continue, but there would be no additional protection or enhancement of resources. If the Project were to operate as in the past, the Licensee would continue to produce energy in the present manner. The no action alternative represents the baseline Project energy production and environmental conditions for comparison with other alternatives.

3.1.1 Existing Project Facilities

The Junction Falls Development consists of: (1) a 114.7-foot-long, 32.5-foot-high concrete uncontrolled stepped spillway; (2) 26-foot long headworks consisting of a wasteway and penstock intake; (3) an impoundment with a surface area of 15.0 acres at the normal full pool elevation of 865.6 feet NAVD88; (4) a 170-foot-long, 6-foot-diameter penstock; (5) a powerhouse containing one generating unit rated at 250 kW; (6) a 163-foot-long 2,300 volt interconnection line connecting the powerhouse to a 500 kVA Howard step-up transformer and a 480-foot-long 12,470 volt interconnection line exiting the transformer; and (7) appurtenant facilities. The impoundment of the Junction Falls Development is also known as Lake George. The Junction Falls Development is operated in a run-of-river mode.

Table E-3.1-1 summarizes existing Project information and facilities.

³ 44 FERC ¶ 62,298 (1988)

⁴ 154 FERC ¶ 61,214 (2016)

Table E-3.1-1. Junction Falls Development Information Summary

GENERAL INFORMATION	
Project Name	River Falls Hydroelectric Project
FERC Project No.	10489
Owner and Licensee	City of River Falls Municipal Utilities
County	Pierce County, Wisconsin
Nearest Towns	City of River Falls
Junction Falls Development	
River	Kinnickinnic River
Drainage Area above Project	102 square miles
Normal Full Pool Elevation	865.6 feet NAVD88
Impoundment Surface Area at Normal Full Pool	15.0 acres
Impoundment Length	Approximately 1,920 feet
Project Boundary Area (as depicted on Exhibit G)	19.0 acres (approximately 15.3 acres water [15.0 acres in the impoundment, 0.3 acre below the dam] and 3.7 acres land)
Impoundment Shoreline Length	Approximately 5,020 feet
Gross Storage Capacity	142.7 acre-feet at normal full pool
Average Annual Inflow at Project	84 cfs for the period of record July 2002-December 2020
Average Annual Energy Production	1,220,000 kWh for the period 2014-2020
Total Maximum Hydraulic Capacity	80 cfs
Minimum Hydraulic Capacity	12 cfs for continuous operation and 3 cfs for short-term ramping startup
Structures	
Dam	RFMU owned and operated. Concrete gravity, constructed in 1948, rehabilitated in 1989. 140.7 feet long (comprised of 114.7-foot long spillway and 26-foot wide headworks)
Spillway	114.7 feet long stepped concrete overflow spillway, 32.5 feet high, spillway crest elevation is 865.6 feet NAVD88
Headworks	Concrete structure at right end of spillway, 26 feet wide by 27 feet long by 35 feet high excluding 3.5-foot parapet wall. Contains 5 feet x 5 feet wasteway intake and 7 feet wide by 19 feet high penstock intake.
Average Head	43.8 feet
Tailrace	Approximately 15 feet to 40 feet wide, 30 feet long (includes area enclosed by the training wall). Normal tailwater elevation at the powerhouse is approximately 821.8 feet NAVD88.

GENERAL INFORMATION	
Penstock for Powerhouse	Steel tube penstock encased in concrete, 170 feet long, 6-foot diameter penstock
Powerhouse	Brick and Masonry, 16 feet long by 18 feet wide by 55 feet high
Turbine/Generator Unit	One (1) 250 kW vertical Francis turbine-generator unit
Interconnection Line	<ul style="list-style-type: none"> • 163 foot-long, 2,300 volt interconnection line connecting the powerhouse to a 500 kVA Howard step-up transformer • 480-foot-long, 12,470 volt interconnection line connecting the 500 kVA Howard step-up transformer to the substation
Trashrack	18.5 feet high by 6.83 feet wide, 2 1/4-inch clear spacing
Right abutment	Concrete, integral to headworks structure
Left abutment	31 feet long, concrete wall with crest elevation 873.1 NAVD88
Right retaining wall	Concrete, 50 feet long, crest elevation varies
Left retaining wall	Concrete, 36 feet long, crest elevation varies
Lower powerhouse training wall	Concrete, 70 feet long, elevation varies

3.1.2 Project Boundary

The Project is located along the Kinnickinnic River in the City of River Falls, in Pierce County, Wisconsin. Upstream from the confluence with the St. Croix River, the Junction Falls dam is located at approximately river mile 10.4. There are no federal or tribal lands within the Project Boundary.

As described in the RSP, the Licensee determined that the Project does not have a well-defined FERC Project Boundary. The Exhibit G currently on file with FERC shows the Project location but does not clearly delineate a FERC Project Boundary. A Project Boundary has been generated in accordance with current FERC regulations (18 CFR § 4.41[h][2]) and is outlined in Exhibit G of this application. Figure E-3.1.-1 below also depicts the Project Boundary.

There are 19.0 acres within the Project Boundary, which includes approximately 15.3 acres of water (15.0 acres in the impoundment, 0.3 acre below the dam) and 3.7 acres of land. The Project Boundary includes land and water between the dam and Walnut Street up to elevation 865.6 feet NAVD88, lands necessary for Project recreation facilities (Lake George Boat Launch, Lake George Fishing Area, and portions of the White Kinnickinnic Pathway), and lands and water necessary for Project operation below the dam, including the spillway and its abutments, headworks, penstock, powerhouse and connected buildings, interconnection lines, transformer, appurtenant facilities, and tailrace.

3.1.3 Project Safety

The Project complies with FERC’s Emergency Action Plan (EAP) requirements. The current EAP is dated December 20, 2018. FERC has designated Junction Falls a significant hazard dam due to downstream recreational use. It is not, however, subject to the requirements of 18 CFR Part 12, subpart D for independent consultants’ inspections (See Exhibit F, Supporting Design Report for more detail).

3.1.4 Existing Project Operations

The plant is manually operated and visually monitored from the adjacent Municipal Utilities power plant complex. The Project has no moveable spillway gates; all flow either passes through the powerhouse or over the fixed-crest spillway. The waste gate is not used to pass either normal or flood flows. Its historic purpose is not documented and it has not been used in the present operator’s memory (approximately 15 years).

At river flows up to the maximum turbine hydraulic capacity (approximately 80 cubic feet per second (cfs)), the Project is operated in run-of-river mode by adjusting the turbine settings to maintain the pool level as close as practicable to the spillway crest elevation, 865.6 feet NAVD88. The Project operator or staff check the pond level multiple times a day by confirming visually that a small amount of water is flowing over the spillway crest. When necessary, turbine adjustments are made in increments of approximately 5 kW every 15 minutes to smoothly redirect flows between the powerhouse and the spillway. A 5-kW adjustment corresponds to a change in flow of approximately 3 cfs. When river flows exceed the turbine capacity, uncontrolled flow over the spillway passively maintains a run-of-river condition.

In 1997 - 1999, the Licensee consulted with resource agencies to mitigate downstream flow fluctuations caused by unit outages for trashrack cleaning as outlined in the October 27, 1997 FERC Order Modifying and Approving Operation Protocol⁵. As a result of this consultation, the 5 kW/15 minute ramping protocol was adopted, as outlined in the January 8, 1999 submittal by RFMU to FERC and supplemented on March 10, 1999⁶. On April 27, the 1999 FERC Order Amending Project Operation Plan⁷ was issued. The Licensee also agreed that during the fall, when heavy leaf litter is observed in the river, the pool will be maintained slightly above the spillway crest to reduce trashrack clogging and the necessary frequency of cleaning. Other than these periods, trash is removed manually from the intake grate as necessary.

⁵ https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=19971029-0358

⁶ https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=19990111-0437,
https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=19990315-0235

⁷ https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=19990428-0460

With the discontinuation of the diesel generation at the River Falls Municipal Power Plant in 2011, located adjacent to the Junction Falls Development, the Project is no longer manned on a 24-hour basis. The operator makes daily visits to the Junction Falls Development.

3.1.5 Existing Environmental Measures

The Licensee currently provides the following PME measures for recreational and aquatic resources:

- Run-of-river operation (FERC License 1988, Article 401): This enhancement measure of run-of-river operation is for the protection of water quality and aquatic resources.
- 5kW/15-minute ramping protocol: This enhancement measure mitigates downstream flow fluctuations caused by unit outages for trashrack cleaning.
- Recreation sites and facilities surrounding Lake George are open and available to the public, including a portion of the White Kinnickinnic Pathway, Lake George Fishing Area, and the Lake George Boat Launch.

3.2 Alternatives Considered but Eliminated from Detailed Study

3.2.1 Federal Government Takeover of the Project

No party has suggested that federal takeover of the Project would be appropriate, and no federal agency has expressed an interest in operating the Project. Federal takeover of the Project would require congressional approval. Moreover, there is no evidence that indicates a federal takeover should be recommended to Congress. Thus, the federal takeover of the Project is not a reasonable alternative and has not been considered in this analysis.

3.2.2 Issuance of Non-Power License

No party has sought a non-power license for the Project, and there is no basis for concluding that the Project should no longer be used to produce power. Thus, a non-power license is not a reasonable alternative to a new operating license with appropriate PME measures and has not been considered in this analysis.

3.2.3 Project Decommissioning

Decommissioning of the upper Junction Falls Development would require denying the licensing application for the Project and surrender or termination of the existing license with appropriate conditions. There would be significant costs involved with decommissioning the Project and/or removing any Project facilities. The Junction Falls Development provides a viable, safe, and clean renewable source of power to the region. With decommissioning, the Junction Falls Development would no longer be authorized to generate power.

Denial of a license or decommissioning is not a reasonable alternative to relicensing a project in most cases. Prior to conducting a decommissioning analysis with or without dam removal, the Commission waits until an applicant proposes to decommission a project, or until a participant in a licensing proceeding demonstrates, with supporting evidence, that there are serious resource concerns that cannot be mitigated if the project is relicensed. RFMU has not proposed decommissioning of the Junction Falls Development, and there is no evidence of an unavoidable, serious resource concern that cannot be mitigated through a subsequent license for the Project. For the above reasons, decommissioning of the Junction Falls Development is not a reasonable alternative to licensing and has not been considered in this analysis.

3.3 Proposed Action

3.3.1 Proposed Project Facilities

The Licensee is proposing no modifications to the existing Project facilities. The existing powerhouse, generating equipment, and appurtenant facilities are all well maintained and in good working order, and no changes are required or proposed to these facilities that are outside normal maintenance practices or ongoing FERC safety requirements.

3.3.2 Proposed Project Boundary

The Licensee is proposing the establishment of a FERC Project boundary as depicted in Exhibit G.

3.3.3 Proposed Project Operations

The Licensee is proposing no fundamental changes in Project operations.

3.3.4 Proposed Environmental Measures

The Licensee is proposing the following PME measures for the protection of important resources:

- Continued run-of-river operation for the protection of water quality and aquatic resources.
- Continued 5kW/15-minute ramping protocol for the mitigation of downstream flow fluctuations caused by unit outages for trashrack cleaning.
- Continued coordination with Trout Unlimited (TU) and discussion of options for continued water quality monitoring at the Junction Falls Development.
- While no Prohibited invasive species are currently located in the Project Boundary, the Licensee will manage invasive species categorized as Prohibited by Wisconsin's invasive species rule, Wis. Admin. Code NR 40 if observed in the Project Boundary in the future.

- Continued operation and maintenance of recreation sites and facilities surrounding Lake George, which are open and available to the public, including a portion of the White Kinnickinnic Pathway, Lake George Fishing Area, and the Lake George Boat Launch.
- Develop and implement a Recreation Management Plan (RMP) to provide for management of recreational sites and facilities at the Project.
- Develop and implement an HPMP to provide for management of historic properties throughout the term of the license.

4.0 GENERAL DESCRIPTION OF THE PROJECT

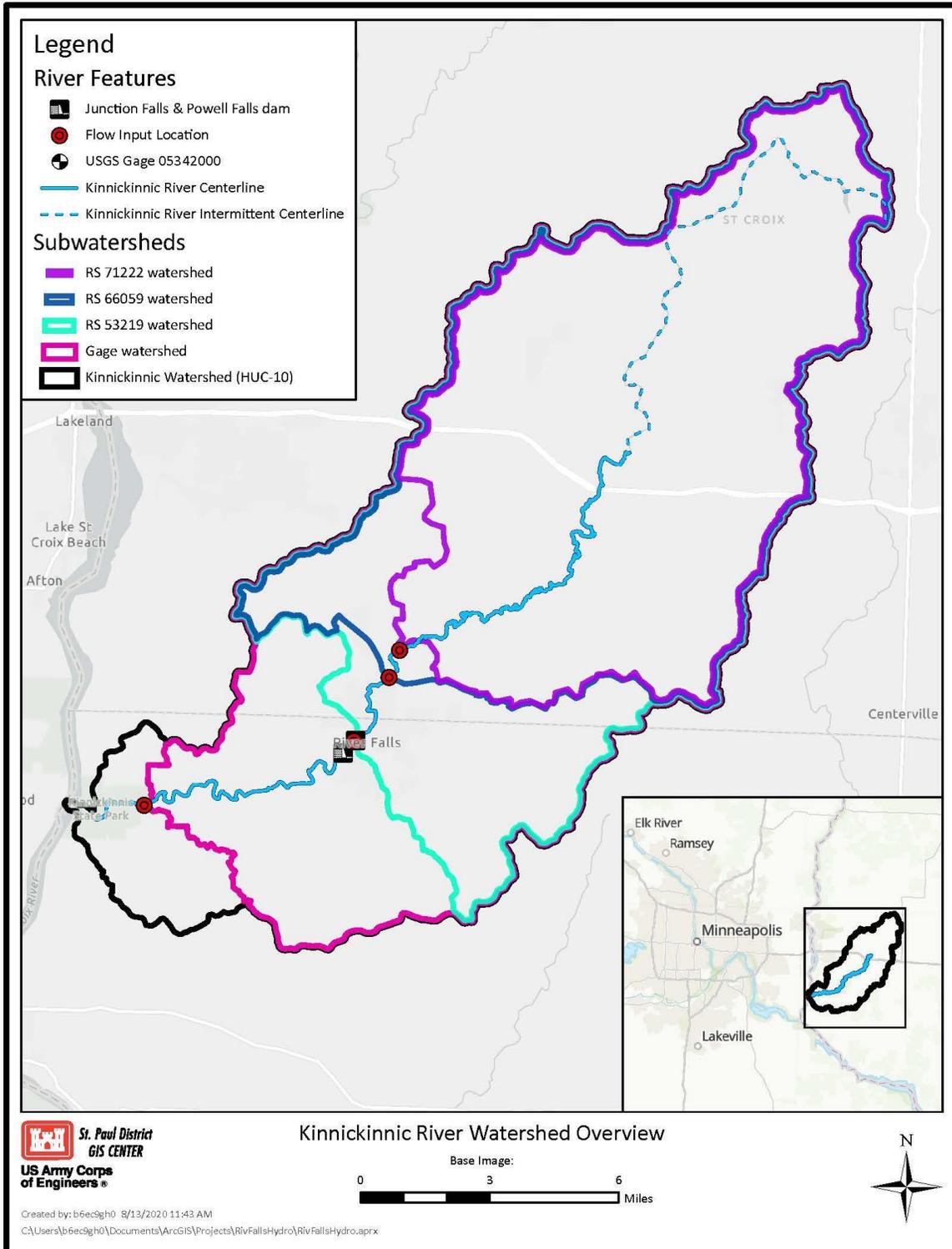
4.1 General Description of the River Basin

The Project is located along the Kinnickinnic River within the Kinnickinnic River Watershed (Figure E-4.1-1). The Kinnickinnic River originates north of Interstate 94 in the town of Warren in St. Croix County, Wisconsin and flows approximately 22 miles southwest through River Falls, discharging to the St. Croix River, north of Prescott, Wisconsin (USACE 2021). The Kinnickinnic River is categorized as a Class I trout stream and includes Outstanding and Exceptional Resource Water designations by the State of Wisconsin (Wisconsin DNR 2002).

The Kinnickinnic River Watershed is a 174 square mile watershed encompassing St. Croix and Pierce Counties (USACE 2021). The watershed includes 283 miles of rivers and streams, 508 acres of lakes, and 1,308 acres of wetlands. The watershed is dominated by agriculture (57%) and grassland (22%) and is ranked high for nonpoint source issues affecting streams, lakes, and groundwater (Wisconsin DNR 2021a). The average slope of the Kinnickinnic River is approximately 10 feet per mile with middle portions of the river being flatter (USACE 2021). Elevations in the Kinnickinnic River Watershed vary from 1,205 feet NAVD88 to 68 feet NAVD88 (USACE 2021).

The Kinnickinnic River Watershed is part of the larger St. Croix River Basin draining a total of 7,760 square miles in Wisconsin and Minnesota. As shown in Figure E-4.1-2, there are 22 watersheds of the St. Croix River Basin draining a total of 4,828 square miles in portions of nine counties in Wisconsin (Wisconsin DNR 2002).

Figure E-4.1-1. Kinnickinnic River Watershed Overview



Source: USACE 2021

Figure E-4.1-2. St. Croix River Basin in Wisconsin



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4.2 Hydrology

The Project is located on the Kinnickinnic River. The drainage area measured at the Junction Falls Development and U.S. Geological Survey (USGS) stream gages used to estimate flows at the Project are described in Exhibit A, Section 1.7. The drainage area at the Junction Falls Development is 102 square miles.

Monthly mean, maximum, and minimum daily flows at Junction Falls Development are shown in Table E-4.2-1. These flows were estimated by a direct drainage area transfer from USGS Gage No. 05342000 for the period of record 2002–2020. Over the period of record the highest monthly mean flows (106 cfs) have occurred in March and the lowest (69 cfs) in January. For the same period of record, a peak flow of 2,488 cfs was recorded on June 29, 2020 and a minimum flow of 46 cfs was recorded on February 3, 2009. Based on records of daily means, the average annual flow is determined to be 84 cfs.

Table E-4.2-1. Junction Falls Development Monthly Mean, Minimum, and Maximum Flows (Period of Record July 2002 – December 2020)

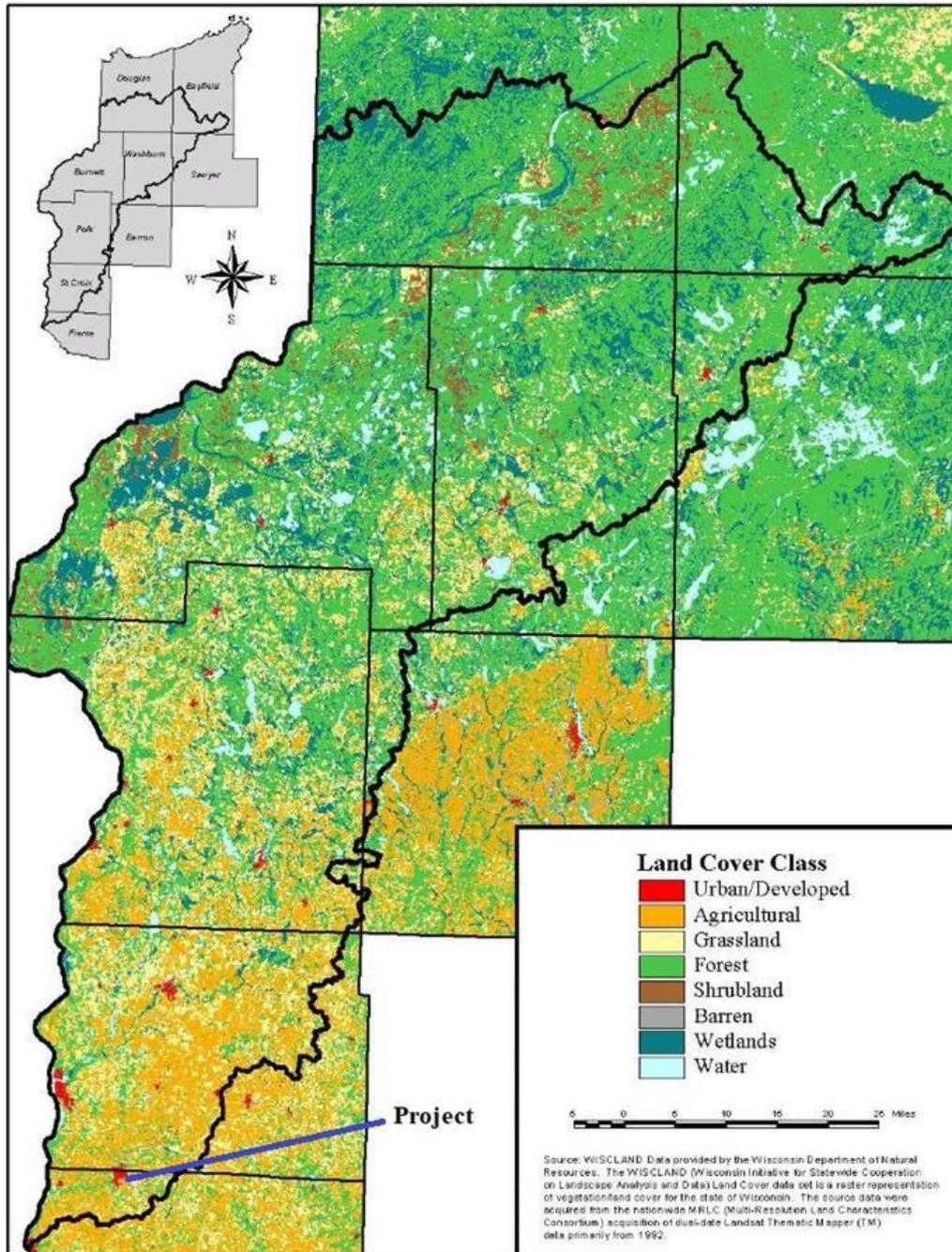
Month	Mean Flow (cfs)	Minimum Flow (cfs)	Date of Minimum Flow	Maximum Flow (cfs)	Date of Maximum Flow
January	69	49	1/29/2010	143	1/1/2007
February	70	46	2/3/2009	303	2/29/2012
March	106	47	3/5/2019	1,392	3/13/2007
April	93	56	4/28/2010	875	4/17/2019
May	89	51	5/29/2010	646	5/11/2003
June	97	50	6/22/2010	2,488	6/29/2020
July	84	49	7/13/2009	1,254	7/6/2015
August	84	48	8/10/2007	1,213	8/11/2010
September	80	52	9/12/2007	449	9/24/2010
October	83	56	10/4/2008	340	10/5/2005
November	78	57	11/1/2008	226	11/12/2015
December	74	50	12/23/2009	334	12/28/2018
ALL MONTHS	84	46	2/3/2009	2,488	6/29/2020

4.3 Topography

The Project is located in the Western Prairie Ecological Landscape and contains the only true representative prairie potholes in the state. Topography of this region is characterized by glaciated, rolling hills with pothole lakes, ponds and wet depressions. Vegetation is mostly comprised of

mesic prairies in the broad rolling areas and wet prairies (Wisconsin DNR 2021b). Oak savannas can be found on the hilly topography with small ribbons of sugar maple-basswood forest. Wetland types in the Western Prairie Ecological Landscape include prairie potholes, wet prairies, floodplain forests, and marshes (Wisconsin DNR 2021a). Figure E-4.3-1 depicts the Land Cover of the St. Croix River Basin in Wisconsin.

Figure E-4.3-1. Land Cover of the St. Croix River Basin in Wisconsin



Source: Wisconsin DNR 2018a

4.4 Climate

The Project region experiences a moderate climate with well-defined seasons, cold winters, and warm summers. The National Oceanic and Atmospheric Administration (NOAA) maintains a long-term climate station (USC00477226) in River Falls approximately 1 mile east of the Project location. The average monthly maximum air temperature (1981 – 2010) in River Falls, WI ranges from 22.9 degrees Fahrenheit (°F) (-5.1 degrees Celsius [°C]) in January to 82.3°F (27.9°C) in July, while the average monthly minimum temperatures range from 3.7°F (-15.7°C) in January to 58.3°F (14.6°C) in July. Overall monthly average temperatures are approximately 13.3°F (-10.4°C) in January and 70.3°F (21.3°C) in July. The average annual precipitation total is 31.75 inches, with the majority (approximately 83%) falling between April and October. The minimum average monthly precipitation occurs in January (0.70 inches) and the maximum average monthly precipitation occurs in August (4.75 inches). The average annual snowfall in River Falls is 45.8 inches (NOAA 2020).

4.5 Land Use

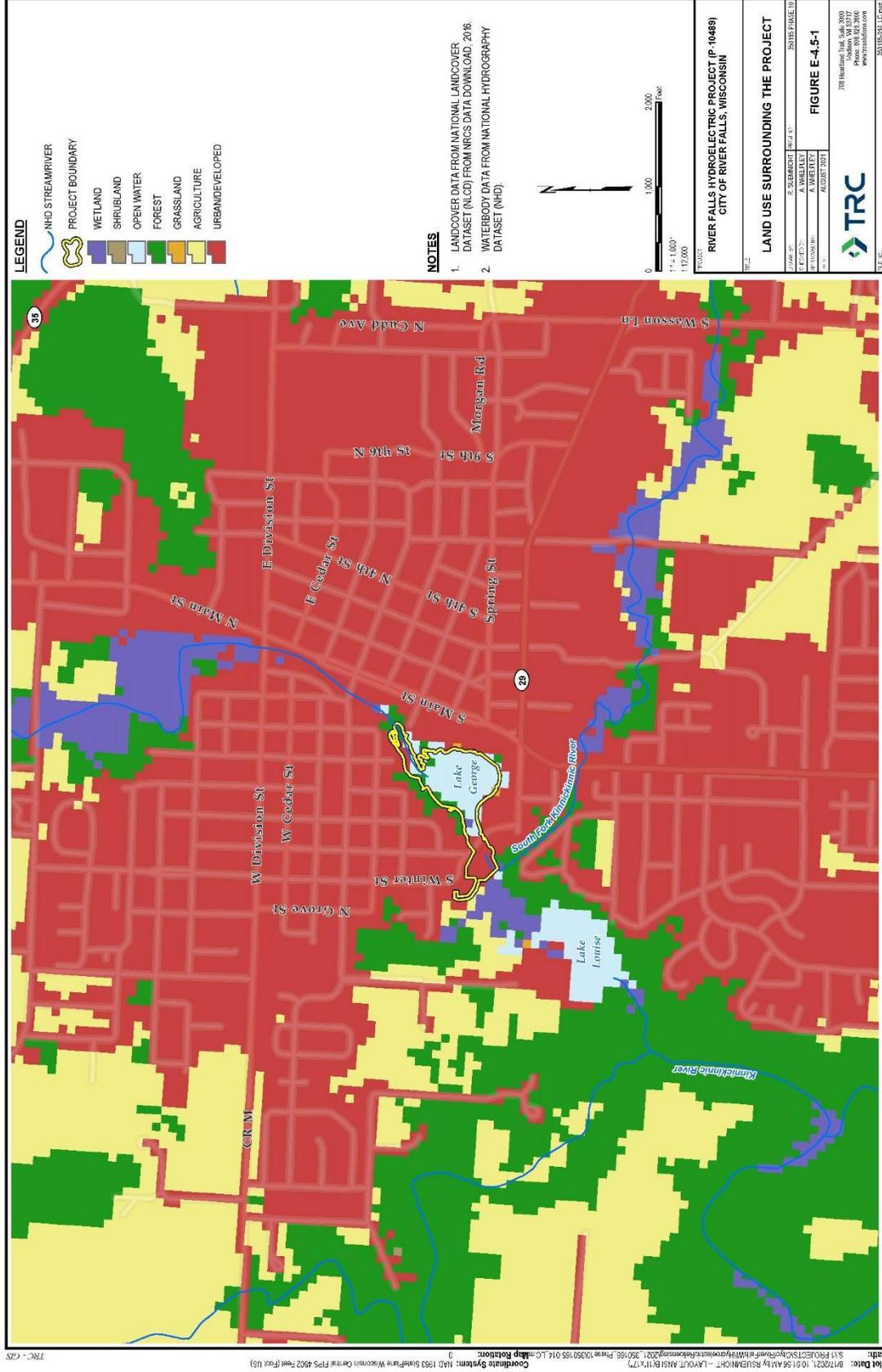
Major land uses surrounding the Project are shown in Figure E-4.5-1. In general, land surrounding the Project to the north and east is urban and developed land, and land to the west and south is a mix of agricultural and forested areas surrounding the river corridor.

Land use within the Project Boundary consists of urban developed land, forest, and wetlands. Urban developed land within the Project Boundary includes the Project facilities, trails, and roadways. Adjacent urban developed lands outside the Project Boundary include roads and buildings associated with the City of River Falls.

Permitting and development of shoreline facilities such as piers, boat docks and landings, bulkheads, residential and commercial development on Project lands and waters are regulated by the City of River Falls's Code of Ordinances, Chapter 17.124 Shoreland-Wetland Protection Regulations. These regulations cover the Shoreland-Wetland Zoning District, design standards for stream buffers, lot dimensions and setbacks, tree cutting, filling, grading, lagooning, dredging, and signage. Implementation of the regulations is managed and enforced by the City's planning department.

As described in Section 5.7, much of the shoreline in the Project Boundary contains parkland that is available for public use.

Figure E-4.5-1. Land Use Surrounding the Project



4.6 Water Use

Project waters are used for hydroelectric generation and recreation. There are no known withdrawals or consumptive uses of water from the Project impoundment. (Wisconsin DNR 2018b). The Project waters are not known to be used for irrigation, domestic water supply, or industrial purposes, except for hydropower generation. The Kinnickinnic River and Lake George are utilized for recreation purposes, including canoeing/kayaking and fishing (see Section 5.7 for detail on Project recreation).

4.7 Dams and Diversions

There are two dams on the Kinnickinnic River, including the Junction Falls dam and the Powell Falls dam. Both of these dams are owned by RFMU. RFMU is proposing to decommission the Powell Falls Development and remove it from the FERC license, with future dam removal to occur under state jurisdiction. There are no other dams or diversions on the mainstem of the Kinnickinnic River.

4.8 References

- National Oceanic and Atmospheric Administration (NOAA). 2020. 1981 – 2010 Climate Normals. River Falls, WI. Available online: <https://www.ncdc.noaa.gov/cdo-web/datatools/normals>
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- Wisconsin Department of Natural Resources (Wisconsin DNR). 2021a. Watershed - Kinnickinnic River (SC01). Available online: <https://dnr.wi.gov/water/watershedDetail.aspx?key=924697>
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5.0 ENVIRONMENTAL ANALYSIS

5.1 Geology and Soils

5.1.1 Affected Environment

5.1.1.1 Geology

Much of the landscape of Wisconsin has been shaped by glaciers. The most recent glacial expansion is known as the Wisconsin Glaciation. About 100,000 years ago, the Laurentide Ice Sheet, began to cover northern North America. During the last part of the Wisconsin Glaciation, beginning about 31,500 years ago, the Laurentide Ice Sheet advanced into Wisconsin. It expanded for 13,500 years before temperatures warmed again and it began to melt back. The extent of the Laurentide Ice Sheet expansion is depicted in Figure E-5.1-1. It took another 7,000 years before the ice retreated from northern Wisconsin. Many of the state's prominent landscape features were formed during the last part of the Wisconsin Glaciation (Wisconsin Geology and Natural History Survey 2021).

Figure E-5.1-2 depicts several of the major landscape features of Wisconsin, several of which were shaped by glaciers.

The Project is located northwest of the Driftless Area (labeled as #14 in Figure E-5.1-2). The Driftless Area has no glacial deposits, referred to as “drift” (Wisconsin Geology and Natural History Survey 2021). The Project is located in a glaciated area, as shown in Figure E-5.1-1.

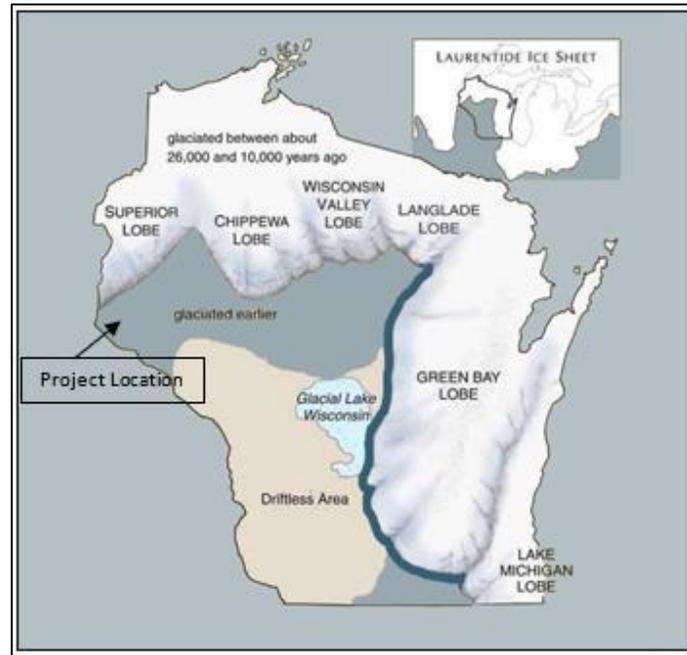
The bedrock geology of the state of Wisconsin is shown in Figure E-5.1-3. The Prairie du Chien Group (Opc), which includes dolomite with some sandstone and shale, and the St. Peter Formation (Osp), which includes sandstone with some limestone shale and conglomerate, are located near the Project.

At the Project, the surrounding area is characterized by a glaciated surface consisting of a thin layer of silty loess over an acid glacial till. Intensely faulted and folded Precambrian granites, diorites, and gneisses comprise the underlying units in the area. Cambrian sandstones, dolomites and shales superpose the Precambrian igneous rocks, and are in turn overlain by Ordovician dolomitic limestones, sandstones, and shales (Ostrom 1981) (RFMU 1987).

In the upland areas upstream of River Falls, the two branches of the Kinnickinnic River flow through broad outwash plains bordered by steeply sloped valley walls, which rise to heights of two hundred feet. The most predominant exposure is the Prairie du Chien group, with various outcrops of the overlying St. Peter sandstone also evident (RFMU 1987).

The Junction Falls Development is located in a steep narrow rock gorge. The walls of this stream-cut valley consist predominantly of the sandy dolomitic rock of the Shakopee formation (RFMU 1987).

Figure E-5.1-1. Laurentide Ice Sheet in Wisconsin



Source: Wisconsin Geology and Natural History Survey 2021

Figure E-5.1-2. Major Landscape Features of Wisconsin

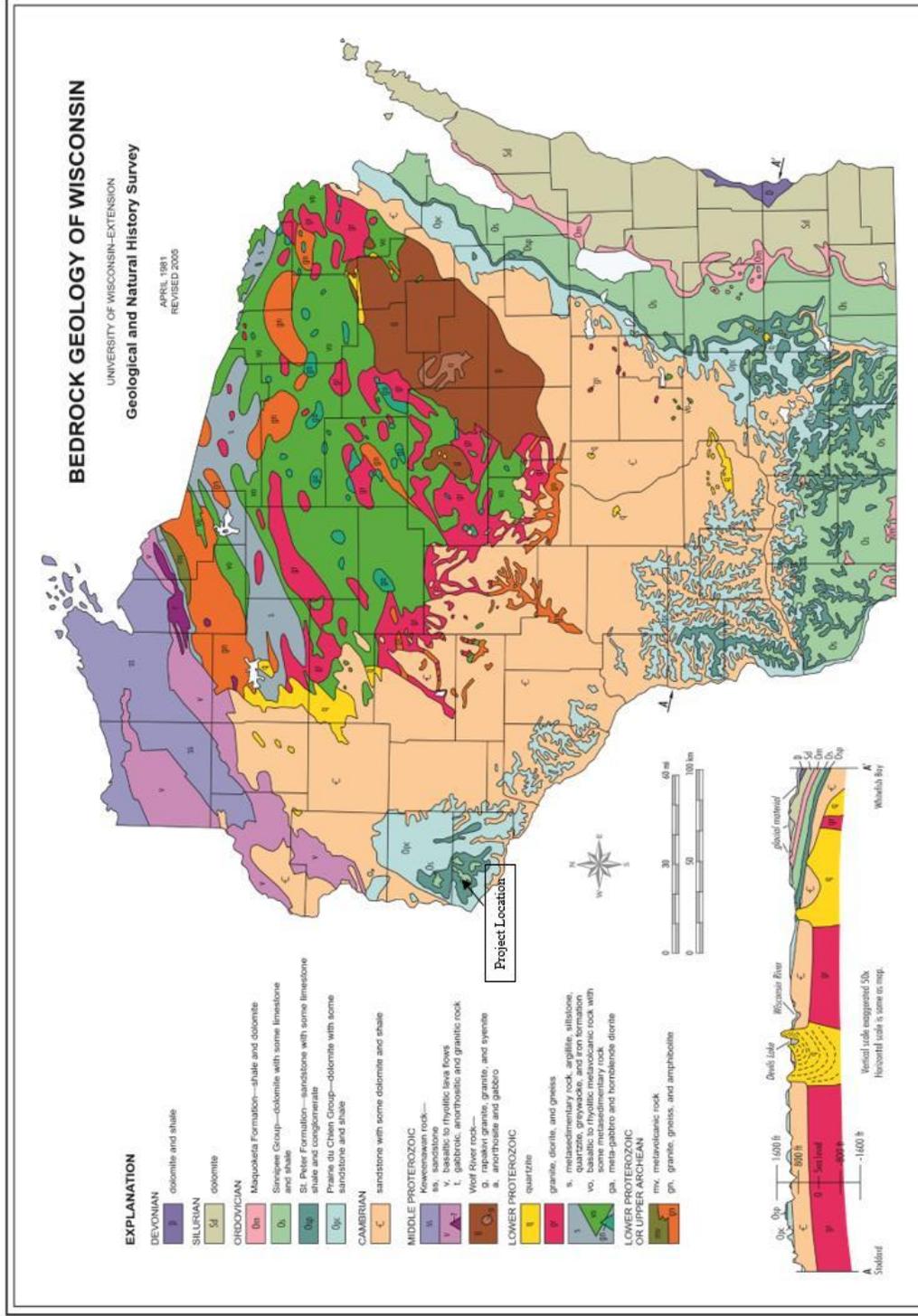


Source: Wisconsin Geology and Natural History Survey 2021

Major landscape features of Wisconsin labeled in figure E-5.1-2 include:

1. Gogebic and Trap Ranges
2. Blue Hills
3. Margin of the northern ice lobes
4. Northern highlands
5. Central Sand Plains
6. Baraboo Hills
7. Lower Wisconsin River valley
8. Blue Mounds
9. Drumlins of the southern Green Bay Lobe
10. Kettle Moraine
11. Green Bay and Fox River lowland
12. Marginal ridge of the Green Bay Lobe
13. Niagara Escarpment
14. Driftless Area

Figure E-5.1-3. Bedrock Geology of Wisconsin



Source: Wisconsin Geological and Natural History Survey 2021

5.1.1.2 Soils

The soil types in the Project Boundary according to the United States Department of Agriculture (USDA) National Resource Conservation Service (NRCS) are tabulated in Table E-5.1-1 and depicted in Figure E-5.1-4 (USDA NRCS 2021).

Soils in the Project Boundary are primarily comprised of sands, silty loams, and clay. Within the impoundment, sediment sizes are fairly consistent. At the upstream end of Lake George, the sediments transition to sand where it narrows (Inter-Fluve 2016).

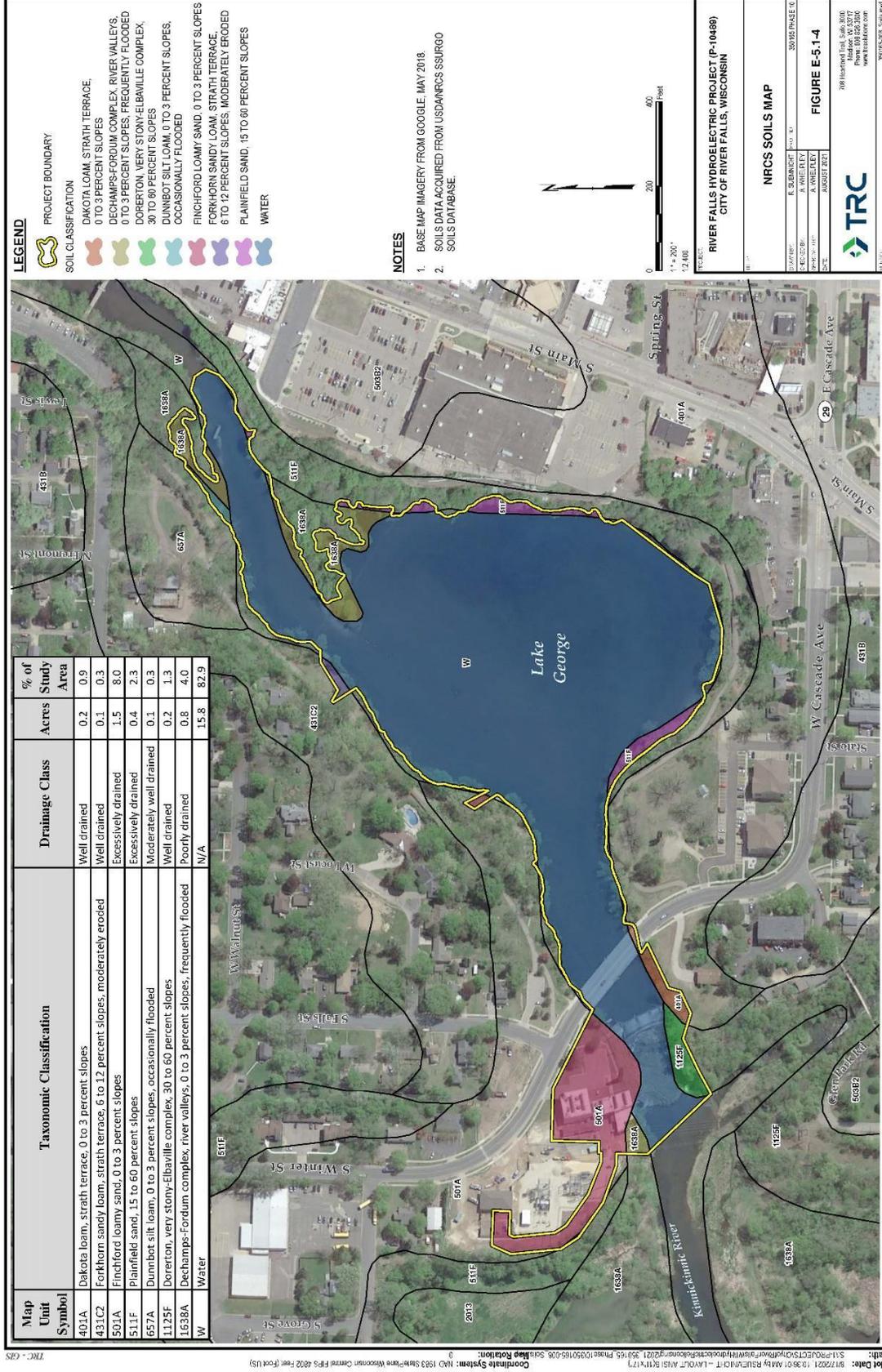
Table E-5.1-1. NRCS Mapped Soils in the Project Boundary

Map Unit Symbol	Taxonomic Classification	Drainage Class	Acres	Percent of Area
1125F	Dorerton, very stony-Elbaville complex, 30 to 60 percent slopes	Well drained	0.2	1.3
1638A	Dechamps-Fordum complex, river valleys, 0 to 3 percent slopes, frequently flooded	Poorly drained	0.8	4.0
401A	Dakota loam, strath terrace, 0 to 3 percent slopes	Well drained	0.2	0.9
431C2	Forkhorn sandy loam, strath terrace, 6 to 12 percent slopes, moderately eroded	Well drained	0.1	0.3
501A	Finchford loamy sand, 0 to 3 percent slopes	Excessively drained	1.5	8.0
511F	Plainfield sand, 15 to 60 percent slopes	Excessively drained	0.4	2.3
657A	Dunnbot silt loam, 0 to 3 percent slopes, occasionally flooded	Moderately well drained	0.1	0.3
W	Water ⁸	N/A	15.8	82.9

Source: USDA NRCS 2021

⁸ NRCS data does not exclude the spillway in its water layer, accounting for a difference from the total water area included on Exhibit G.

Figure E-5.1-4. NCRS Mapped Soils within Project Boundary



5.1.1.3 Impoundment Shoreline and Streambank Conditions

On July 28 and 29, 2020, Gulf South Research Corporation (GSRC) conducted a Shoreline Habitat Assessment for Lake George. Approximately 75 percent of the riparian buffer zone is occupied by natural vegetation. The other 25 percent is a combination of impervious surfaces, maintained lawns, and exposed soil or sand. The bank zone is mostly intact with sporadic rip rap found in locations associated with human developments. The littoral zone is relatively shallow and contains higher densities of submerged aquatic plants and green algae (GSRC 2020).

The majority of the shoreline is comprised of low elevation floodplains or forests and is relatively stable and consistent in character. The shoreline is comprised mostly of sandy loam. Streambanks are generally stable and active erosion is present as a result of natural lateral migration of the river channel (Photos E-5.1-1 and E-5.1-2). Overbank sedimentation on floodplains are present as a result of the June 2020 flood. The short stretch of the upper Kinnickinnic River directly north of Lake George (Photo E-5.1-3) appears to be wider, shallower and slower moving prior to establishment of the impoundment due to sediment disposition (GSRC 2020).

Photo E-5.1-1: View of the southeast portion of Lake George shoreline



Image from GSRC 2020

Photo E-5.1-2: View of the northwest portion of Lake George shoreline



Image from GSRC 2020

Photo E-5.1-3: Kayakers on the Kinnickinnic River north of Lake George



Image from GSRC 2020

5.1.2 Environmental Analysis

During scoping, a comment was received in response to SD1 by Judie Babcock regarding the stability of the bluff at the Junction Falls Powerhouse. Ms. Babcock requested that the Licensee provide an update on its plan to stabilize the bluff and provide current information regarding geologic conditions and bluff stability. Ms. Babcock also requested that the Environmental Analysis evaluate the stability of the bluff at Junction Falls powerhouse over the potential license period of 30 to 50 years.

In response to Ms. Babcock's comments, FERC stated in SD2 that The Division of Dam Safety and Inspections is aware of the weathered bluff adjacent to the powerhouse and will assess this and other safety issues to ensure that the applicant's proposed Project meets the Commission's dam safety criteria found in Part 12 of the Commission's regulations and the Commission's Engineering Guidelines.

In SD2, FERC lists the effects of continued operation on sediment transport within and downstream of the Project as a potential resource issue to be analyzed. FERC's SPD included a Shoreline Habitat Assessment for Lake George, which was conducted in 2020 by GSRC. The shoreline around Lake George was shown to be stable during the Lake George Shoreline Habitat Assessment (GSRC 2020), which occurred after a June 2020 flood event. Based on this assessment, the Licensee anticipates that continued operation of the Project will not adversely affect shoreline stability.

The June 2020 flood event rearranged sediments in Lake George and also the Kinnickinnic River downstream. Sand was transported from the impoundment and tributary influxes upstream and downstream of the Project, such as the Rocky Branch. It is likely that the impoundment sediment volume was altered in composition and volume during this flood event; however, it is unclear at this time how much sediment was altered during this flood event.

Continued operation is unlikely to alter the composition of sediment within the impoundment as the impounded sediment is similar in gradation throughout Lake George. The sediment composition is similar in gradation because the impoundment's main pond has a sediment transport capacity more like a river (Inter-Fluve 2016) than a deep lake. Sediment composition in the impoundment is expected to continue matching the gradation and characteristics of sediment in the upstream river channel.

Continued operation may alter the depth of sediment within the impoundment; but as evidenced by the 2020 flood results and recent field studies (Ayles 2021), this cycle of sediment flux and storage is not likely an adverse impact. In drier years, sediment accumulates in the impoundment as evidenced by growth of the sand bars along the upstream impoundment edge. However, in wetter years, these sediments are resuspended and passed over the spillway. The 2020 flood proved that the impoundment depth could be altered by four or more feet during flood events, but

after the flood new sediment began redepositing on the upstream sand bars. This sediment cycle is not an adverse impact; and anecdotally (based on field observations collected during the water quality study) the periodic flood events appear to beneficially refresh the lacustrine substrate (exposing coarser materials) and plant density (thinning those species that grow in 1 to 6 feet of water).

Continued operation may alter the timing of sediment releases, but the total volume of sediment released from the impoundment is expected to be the same as the volume that would be released without the dam in place (Inter-Fluve 2016). On a five- or ten-year basis, the impoundment is near stasis with regard to total sediment volume. During the last license period, the impoundment reached a point of having no additional capacity to store sediments during major floods as depicted in Photo E-5.1-4. It is estimated that the July 2020 flood removed more than four feet of sediment from the western half of the impoundment. Sediment does move through the system, even after flood events, as indicated in Photo E-5.1-5. Photo E-5.1-6 shows sand bars reforming and enlarging during low and normal flow events one year after the 2020 flood. The impoundment's sediment flux is expected to continue in stasis when looked at over the proposed license term.

Based on the information above and observations following the 2020 flood, the Licensee anticipates that continued operation of the Project will not adversely affect geological and soil resources within or downstream of the Project.

Photo E-5.1-4: View of sandbar in Lake George pre flood



Lake George 5 3 2020

Image from Lake George 5 3 2020 – YouTube

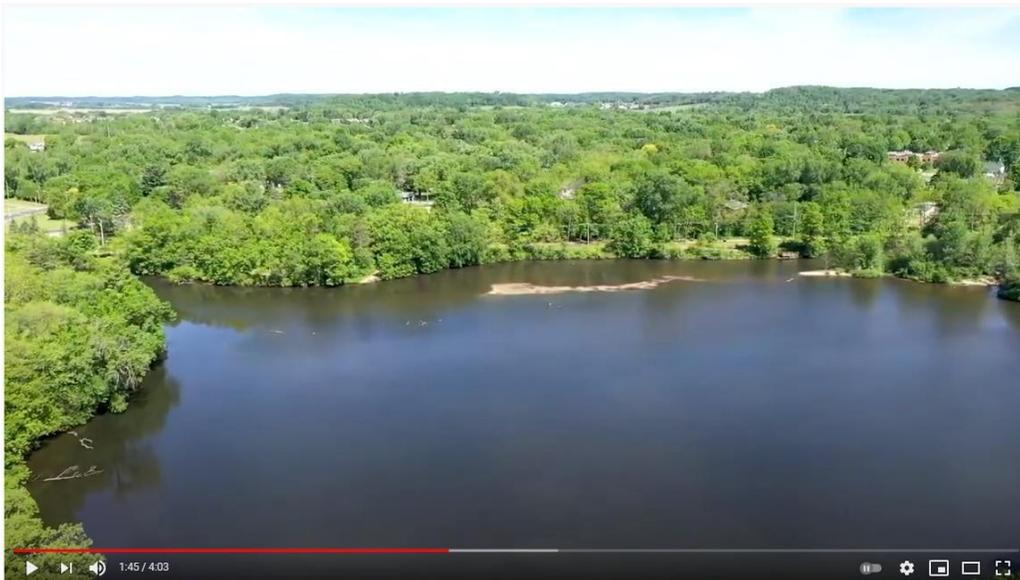
Photo E-5.1-5: View of sandbar in Lake George immediately following the 2020 flood



Lake George 7 4 2020

Image from Lake George 7 4 2020 - YouTube

Photo E-5.1-6: View of sandbar in Lake George one year after the 2020 flood



George 5 29 2021

Image from George 5 29 2021 – YouTube

*Note: The sandbar is thinning on the upstream section, indicating that sediment is being pushed off the bar and back down into deeper water.

5.1.3 Proposed Environmental Measures

The Licensee is proposing to continue to operate and maintain the Project under the existing regime. Thus, continued Project operation is not anticipated to have any direct or indirect adverse effects within or downstream of the Project on geologic resources and soils. For this reason, no measures directly aimed at enhancing area geologic resources and soils are proposed.

5.1.4 Cumulative Effects

The Licensee's proposal to continue to operate and maintain the Junction Falls dam under fundamentally the same existing operating regime is not expected to result in cumulative impacts to geologic resources and soil.

5.1.5 Unavoidable Adverse Impacts

Unavoidable adverse impacts are those effects that may still occur after implementation of PME measures. Operation of the Project has no significant adverse effect on geological resources and soil. No unavoidable adverse impacts to geological resources and soil are expected to occur as a result of the continued operation of the Junction Falls Development.

5.1.6 References

- Gulf South Research Corporation (GSRC). 2020, December. Lake George Shoreline Habitat Assessment for the River Falls Hydroelectric Project. Prepared for the U.S. Army Corps of Engineers, St. Paul District. Available in the Updated Study Report: https://elibrary.ferc.gov/eLibrary/docinfo?accession_num=20210129-5114
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- YouTube. George 5 29 2021. Available online: [George 5 29 2021 - YouTube](#)

5.2 Water Resources

5.2.1 Affected Environment

5.2.1.1 Water Quantity and Use

Drainage Area

The Project is located on the Kinnickinnic River. The drainage area measured at the Junction Falls Development and USGS stream gages used to estimate flows at the Project are outlined in Section 4.2 of this Exhibit E. The drainage area at the Junction Falls Development is 102 square miles.

The impoundment length is approximately 1,920 feet (including the area between the dam and northern extent of the Project Boundary). The impoundment within the Project Boundary is approximately 15.0 acres at normal full pool with an elevation of 865.6 feet NAVD88 at the crest of the spillway. The Project operates in a run-of-river mode, as described in Exhibit A Section 1.3. Impoundment depth ranges from less than one foot to ten feet deep (Inter-Fluve 2016).

Streamflow, Gage Data, and Flow Statistics

Mean, median, maximum, and minimum daily flows at Junction Falls are shown in Table E-5.2-1. These flows were estimated by a direct drainage area transfer from USGS Gaging Station 05342000 for the period of record 2002 – 2020.

Table E-5.2-1. Summary Flow Statistics of the Junction Falls Project, 2002 – 2020

	Daily Flow (cfs)	Date
Mean	84	
Median	76	
Maximum	2,488	June 29, 2020
Minimum	46	February 3, 2009

Monthly mean, maximum, and minimum daily flows at Junction Falls Development are described in Section 4.2 of this Exhibit E. Over the period of record (2002–2020), the highest monthly mean flows (106 cfs) have occurred in March and the lowest (69 cfs) in January.

Flow Duration Curves

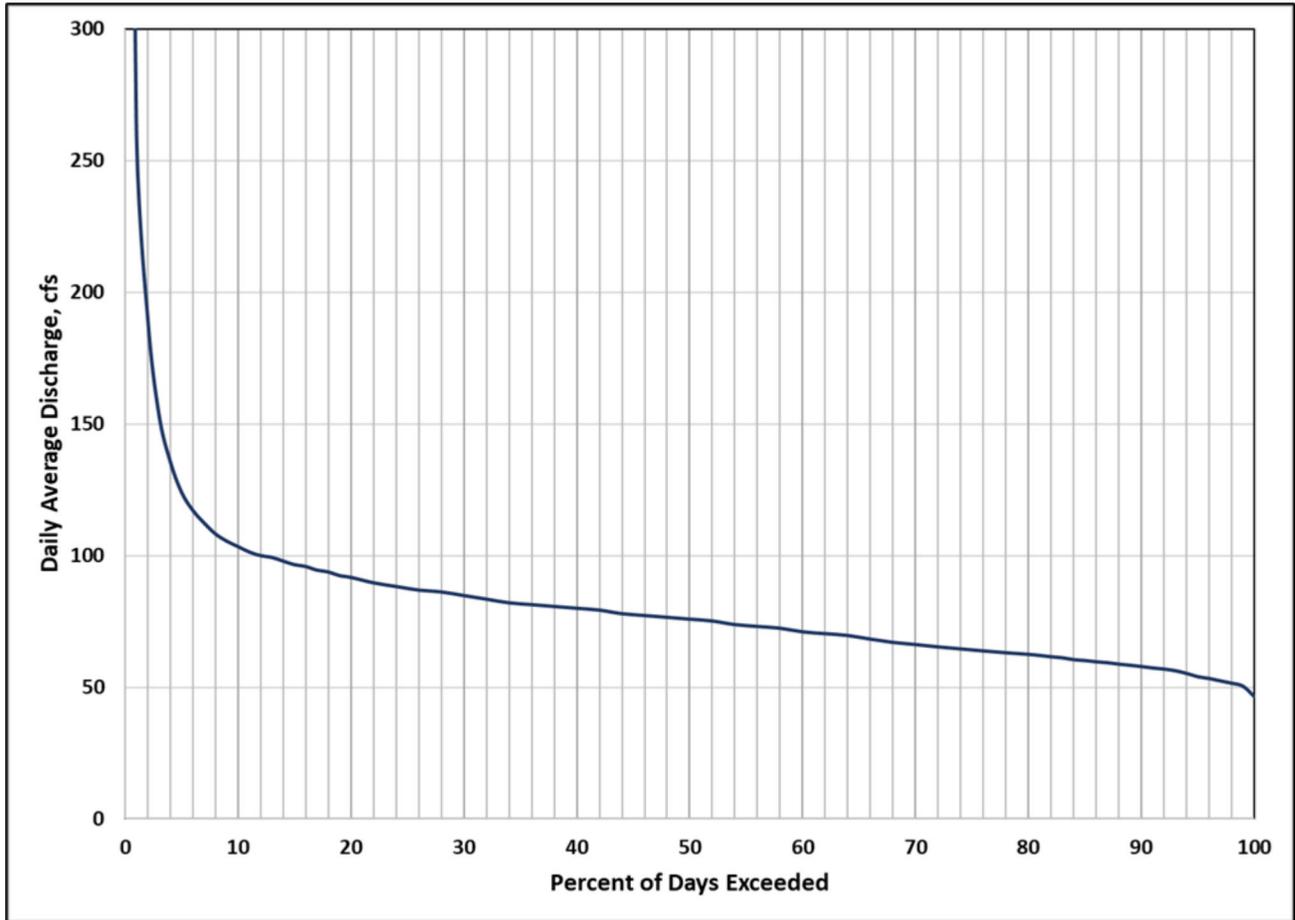
Flow duration values were estimated from daily flows recorded at the downstream USGS stream gage (USGS Gage No. 05342000, located on the Kinnickinnic River at County Highway F) from 2002 to 2020. A direct drainage area ratio transfer was applied to the USGS daily flow record. The direct ratio approach was chosen based on a review of a series of USGS field measurements of flows at two other locations upstream and downstream of River Falls in 1996 and 1997. The field measurement locations are designated USGS gage sites 05341879 and 05341930. The drainage area, periods of record for the field measurement sites, the downstream daily USGS Gage No. 05342000, and the Junction Falls Development are listed in Table E-4.2-1 in Section 4.2 of this Exhibit E.

USGS sites 05341879 and 05341930 do not have daily flow data and the field measurements do not overlap with the period of record at the currently operating USGS Gage No. 05342000. At USGS sites 05341879 and 05341930, nine pairs of same-day flow measurements were reported between April 1996 and October 1997. The flows measured at the downstream site, at a drainage area of 137 square miles, ranged from 1.21 to 1.57 times the flows measured on the same day at the upstream site, at a drainage area of 98 square miles. The average flow ratio on a given day was 1.40. Since this is equal to the drainage area ratio between the two sites, direct drainage area ratios were applied to the daily data from USGS Gage No. 05342000 to estimate the distribution of daily flows at the Project facilities. Table E-5.2-2 lists flow-duration values by month for the Junction Falls Development. Figure E-5.2-1 shows the annual flow-duration curve at the Junction Falls Development based on the 2002 – 2020 USGS gage record. Monthly flow duration curves are located in Appendix A-1 of Exhibit A.

Table E-5.2-2. Junction Falls Development Flow Duration Values by Month (cfs)

Month	Percent Exceedance								
	1	5	10	25	50	75	90	95	99
January	99	90	81	77	68	59	54	51	50
February	190	96	89	75	67	58	52	51	49
March	516	245	150	97	77	66	57	53	48
April	303	159	118	94	80	71	62	60	57
May	276	145	116	96	81	70	58	55	52
June	498	184	118	95	78	63	55	52	51
July	188	126	114	92	79	62	54	52	50
August	228	119	103	91	77	65	59	57	50
September	186	108	99	87	77	62	59	58	56
October	191	112	101	89	78	68	63	58	57
November	110	102	93	86	77	65	62	60	59
December	123	95	88	82	73	63	58	56	52
ALL MONTHS	266	124	103	87	76	64	58	54	50

Figure E-5.2-1. Annual Flow-Duration Curve at Junction Falls Development



Existing and Proposed Water Uses

There are no known current or proposed water withdrawals located within the Project Boundary (Wisconsin DNR 2018a). The Project waters are not known to be used for irrigation, domestic water supply, or industrial purposes, except for hydropower generation by the Project.

The Wisconsin DNR regulates the discharge of pollutants to waters of the state through the Wisconsin Pollutant Discharge Elimination System (WPDES) program. There is one WPDES permitted facility near the Project: the RFMU Wastewater Treatment Facility (WPDES Permit Number 0029394). This wastewater treatment facility discharges into waters below the Junction Falls Development (Wisconsin DNR 2018b).

Instream uses of water near the Project, other than for municipal utility operations, are generally limited to recreation, including boating and angling in the Kinnickinnic River.

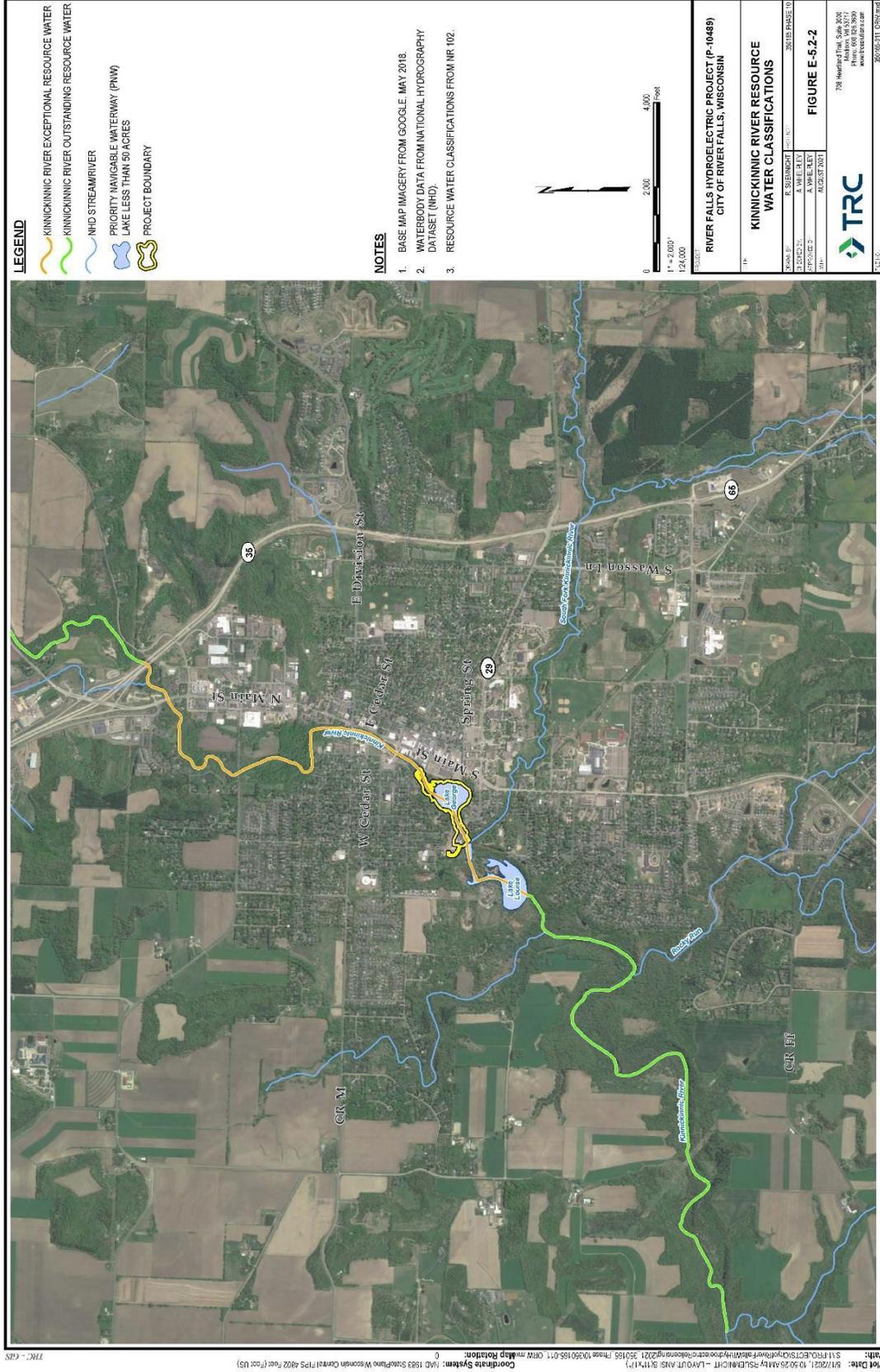
5.2.1.2 Water Quality

The water quality in the Kinnickinnic River is suitable for fishing and recreation. Water quality of the river and available water quality data specific to the Project are summarized below.

Historically, the Kinnickinnic River has fluctuated between a high-quality and marginal cold-water prairie trout stream (Wisconsin DNR 1998). Efforts associated with the implementation of the Clean Water Act regulatory initiatives have restored the Kinnickinnic River to the status of a premier trout fishery in western Wisconsin (Wisconsin DNR 2021a). During the late 1800s through the early 1900s, the Kinnickinnic River was degraded by agricultural activities, wastewater effluent, deforestation and construction of dams. Since the mid-1930s, the Kinnickinnic River was greatly rehabilitated by conservation activities including soil erosion control programs, wastewater treatment, and fish habitat restoration projects. The Kinnickinnic River Priority Watershed Surface Water Resource Appraisal Report concluded that the most significant threat to the Kinnickinnic River watershed was rapid urbanization resulting from its close proximity to the Twin Cities metropolitan area (Wisconsin DNR 1998; City of River Falls 2018).

The state of Wisconsin designates surface waters that provide outstanding recreational opportunities, support valuable fisheries and wildlife habitat, have good water quality, and are not significantly impacted by human activities as Outstanding or Exceptional Resource Waters in Chapter NR 102. The Kinnickinnic River is designated by the state of Wisconsin as both an Outstanding and Exceptional Resource Water (Figure E-5.2-2). Upstream of the Project beginning above State Trunk Highway (STH) 35, and below the Powell Falls dam, the Kinnickinnic River is designated as an Outstanding Resource Water because it has excellent water quality, high recreational and aesthetic value, high-quality fishing, and is free from point source or non-point source pollution (Wisc. stats. 102.10[1][d]25). The Kinnickinnic River from downstream of STH 35 to the Powell Falls dam is designated as an Exceptional Resource Water because it exhibits the same high-quality resource values as outstanding waters but may be affected by point source pollution or have the potential for future discharge from a small sewer community (Wisc. stats. 102.10[1][f]14).

Figure E-5.2-2. Kinnickinnic River Resource Water Classifications



Standards

Water quality standards consistent with the Clean Water Act (CWA) have been established by the Wisconsin Legislature in Chapter 281 of the Wisconsin Statutes, explained in detail in NR 102, 103, 104, 105, and 207 of the Wisconsin Administrative Code. Methodology for conducting and assessing water quality is outlined in the Wisconsin DNR Wisconsin Consolidated Assessment and Listing Methodology (WisCALM) document (Wisconsin DNR 2021b).

The water quality standards for the Kinnickinnic River based on NR 102, 104, 105, and 207 are shown in Table E-5.2-5.

Table E-5.2-5. Selected Water Quality Standards for the Kinnickinnic River at the Project

Dissolved Oxygen (mg/l)	pH	Maximum Water Temperature (°F)
≥6.0 at any time and ≥7.0 during spawning season	6.0-9.0 with no change greater than 0.5	Cold-water Trout Fisheries: 72 °F

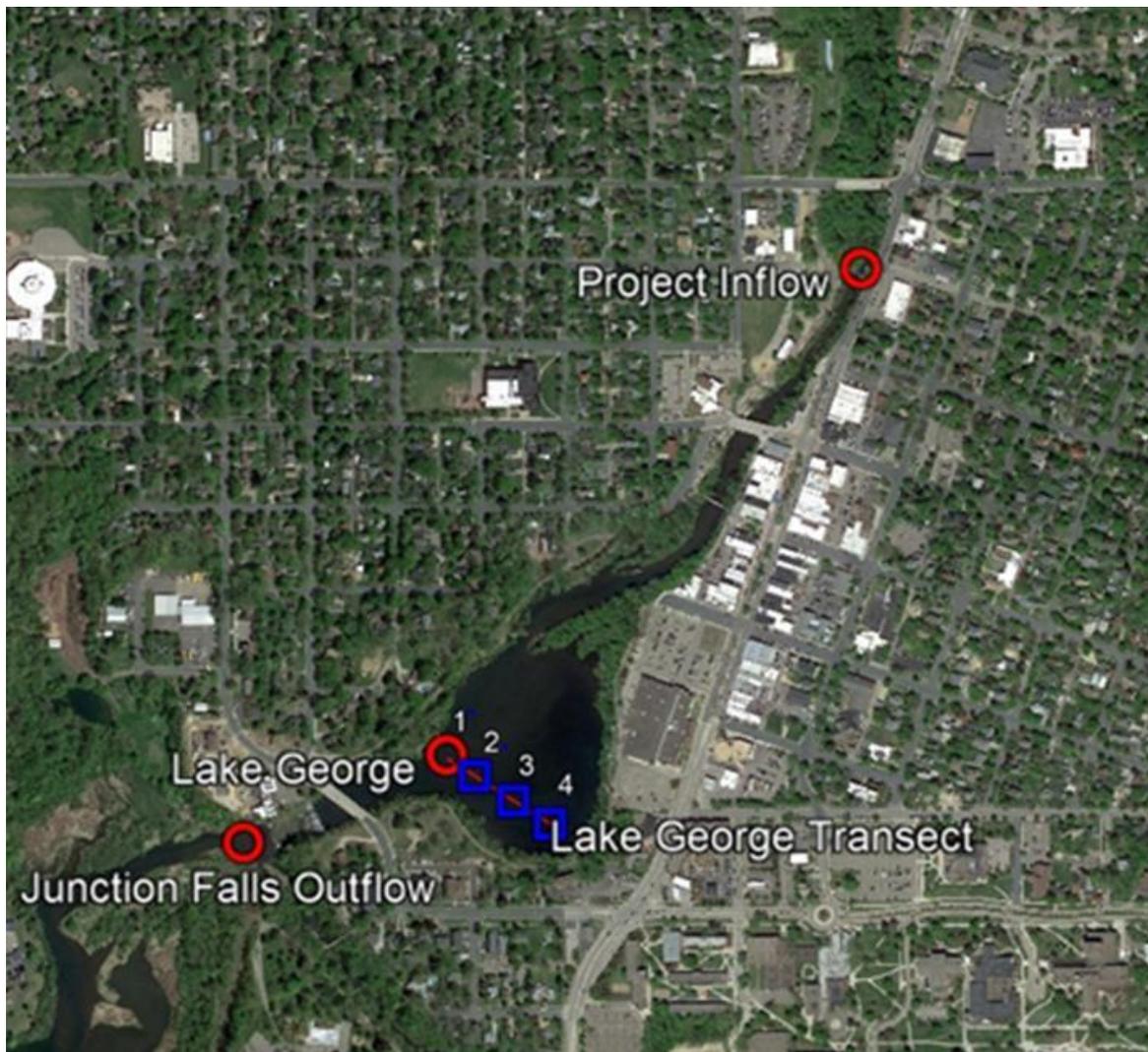
2019 and 2020 Water Quality Monitoring

The Licensee conducted a water quality study in consultation with the agencies and stakeholders. The study objectives were to monitor dissolved oxygen (DO) and water temperatures prior to and during the summer season. Continuous temperature and DO instruments were installed at three locations associated with the Junction Falls Development, immediately upstream of Lake George (inflow), Lake George, and Junction Falls outflow upstream of Lake Louise. Periodic grab samples were also taken at the instrument locations and, in 2020, along an established transect in Lake George. Sample locations are depicted in Figure E-5.2-3. The continuous collection periods occurred in July - September 2019 and May – September 2020 (Table E-5.2-6). The following is a summary of the important observations from the Ayres (2021) study:

- Inflows consistently met state temperature criteria for cold-water fisheries (Table 5.2-5); average monthly values were consistently at or below 61 °F in 2019 and 2020 (Table 5.2-7).
- The average monthly temperature difference between the inflow and downstream of Junction Falls was 3 °F or less (Table 5.2-7a).
- The maximum recorded water temperature in Lake George and the Junction Falls outflow exceeded the state cold-water acute temperature standard on one occasion in July 2019 (Table 5.2-7b).

- In Lake George, the DO concentration dropped below 5 mg/L on several occasions in 2019, reaching near-zero concentrations late in the season. The 2020 data showed low DO concentrations in Lake George as well as likely instrument drift due to fouling in May and June, but a return to more river-like conditions (as well as fewer sensor issues) after the late June flood (Table E-5.2-8).
- Diurnal fluctuations in DO content generally follow an increasing trend during daylight hours (Table E-5.2.9).
- Vertical stratification was minor or absent in Lake George although higher diurnal temperature and DO fluctuations were observed compared to the riverine sampling locations (Table E-5.2-10).

Figure E-5.2-3. Water Quality Data Collection Locations



Continuous Hobo units shown in red and 2020 grab sample locations shown in blue
Figure from Ayres 2021

Table E-5.2-6. Dissolved Oxygen/Temperature Continuous Recording Locations and Dates

Location	Water Depth (ft) at first placement (7-18-2019)	Recording Dates	Comments
Project Inflow	2.2	7/18 - 7/23, 2019 8/2 - 8/5, 2019 8/6 - 9/17, 2019 5/15 - 6/19, 2020 7/17 - 10/2, 2020	Free flowing reach, water depth varied throughout recording period. Sensor was placed in PVC pipe in 2019. In 2020 it was initially placed in PVC pipe but later attached to cinder block approximately 1 foot off the streambed due to repeated disturbance by the public.
Lake George	4.2	7/18 - 9/16, 2019 5/15 - 6/19, 2020 7/17 - 10/2, 2020	Impounded reach above Junction Falls dam
Junction Falls Outflow	3.9	7/18 - 9/17, 2019 5/15 - 5/29, 2020 6/12 - 6/19, 2020 7/17 - 10/2, 2020	Placed in pool near western shoreline to capture powerhouse/spillway outflows with minimal impact by South Fork Found removed from stream and left on streambank 6-12-2020.

The average and maximum monthly temperature readings from the continuous Hobo units are included in Tables E-5.2-7(a) and (b).

The Kiap-TU-Wish Chapter of TU collected contemporaneous temperature readings on a continuous basis in the summer of 2020. These data supplement the data collected by Ayres, which had some missing periods due to flooding and public disturbance of the units. Data from the TU Division Street location (approximately corresponding to the Ayres “Project Inflow” location) is also shown in Tables E-5.2-7(a) and (b). None of the other TU temperature data collection locations are inside the study area.

Table E-5.2-7(a). Summary of Recorded Average Monthly Water Temperatures

Month	Monthly Average Water Temperature, °F			
	Project Inflow	Project Inflow (TU)	Lake George	Junction Falls Outflow
<i>2019</i>				
July	60		61	62
August	60		59	60
September	56		57	57
<i>2020</i>				
May	57	54	57	58
June	59	60	60	61
July	61	61	62	63
August	59	59	60	61
September	54	54	54	55

Table E-5.2-7(b). Summary of Maximum Recorded Water Temperatures

Month	Maximum 15-minute Temperature, °F			
	Project Inflow	Project Inflow (TU)	Lake George	Junction Falls Outflow
July 2019	64		78	78
Aug. 2019	63		65	65
Sept. 2019	63		62	63
May 2020	65	67	65	67
June 2020	65	72*	68	69
July 2020	66	70*	68	68
Aug. 2020	65	65	66	68
Sept. 2020	59	59	60	61

** High temperatures June 29 – July 1, 2020 recorded by TU are related to June 29 flood. Ayres instruments were lost during this event.*

Table E-5.2-8. Summary of Recorded Dissolved Oxygen Concentrations

Location	Measured Dissolved Oxygen Range (mg/L) for Season	Percent of readings < 6.0 mg/L (trout stream standard)	Percent of readings < 5.0 mg/L (other water body standard)
Project Inflow	7.0 – 13.0 (2019) 1.4* – 14.5 (2020)	0 % 1.6%*	0 % 1.5%*
Lake George	0.0 – 13.0 (2019) 2.0 – 15.5 (2020)	37 % 12%	28 % 8%
Junction Falls Outflow	2.9 – 13.5 (2019) 2.4* – 12.4 (2020)	4 % 3%*	3 % 2 %*
<p><i>* lowest readings during period of “suspect” data. As noted in the Updated Study Report (January 2021), data flagged “suspect” involved atypical readings without a discernable drift pattern and were attributed to public or natural disturbance of the instrument.</i></p>			

**Table E-5.2-9. Dissolved Oxygen Concentrations
 Through Study Reach, Selected Dates and Times**

Date	Time	Dissolved Oxygen Concentration (mg/L)		
		Project Inflow	Lake George	Junction Falls Outflow
<i>2019</i>				
July 20	4:00 a.m.	8.5	7.7	7.8
	4:00 p.m.	8.8	8.6	9.2
August 1	4:00 a.m.	N/A	6.3	7.6
	4:00 p.m.	N/A	7.6	11.1
August 10	4:00 a.m.	8.9	7.1	7.8
	4:00 p.m.	11.1	7.8	9.4
August 15	4:00 a.m.	8.7	6.6	8.4
	4:00 p.m.	11.1	8.8	11.2
August 31	4:00 a.m.	9.5	4.4*	9.9
	4:00 p.m.	11.4	9.8	10.9
September 15	4:00 a.m.	9.3	8.4	9.9
	4:00 p.m.	10.7	6.2	9.7
<i>2020</i>				
May 16	4:00 a.m.	9.6	9.6	9.8
	4:00 p.m.	14.0	12.5	11.7
June 1	4:00 a.m.	9.2	4.2*	NA
	4:00 p.m.	10.9	9.2	NA
June 15	4:00 a.m.	9.3	5.7*	10.0
	4:00 p.m.	11.4	8.9	9.8
July 18	4:00 a.m.	8.6	8.7	9.1
	4:00 p.m.	10.6	10.7	9.5
August 1	4:00 a.m.	8.8	9.0	7.8
	4:00 p.m.	10.5	11.2	8.6
August 6	4:00 a.m.	9.0	9.0	4.8*
	4:00 p.m.	12.0	12.9	9.9
August 15	4:00 a.m.	8.1	8.1	9.0
	4:00 p.m.	9.3	10.9	9.6
September 1	4:00 a.m.	8.9	10.3	9.1
	4:00 p.m.	10.5	10.7	9.7
September 15	4:00 a.m.	9.3	9.2	9.7
	4:00 p.m.	10.6	11.1	9.9
September 30	4:00 a.m.	9.6	9.4	9.9
	4:00 p.m.	10.8	11.0	10.1
*Indicates below standard for Kinnickinnic River (Table E-5.2-5).				

**Table E-5.2-10. Instantaneous Field Measurements at
Lake George Monitoring Site and Transect**

Date	Depth (ft)	Site LG-1 (Hobo Unit Location)		Site LG-2 (2 vertical pts before flood; 1 after)		Site LG-3 (3 vertical pts before flood; 2-3 after)		Site LG-4 (3 vertical pts)		Algae Cover %
		DO (mg/L)	Water Temp (°F)	DO (mg/L)	Water Temp (°F)	DO (mg/L)	Water Temp (°F)	DO (mg/L)	Water Temp (°F)	
2019										
July 18	0.5 - 1	5.2	61							50
Aug. 2	0.5 - 1	6.2	59							30
Aug. 13	0.5 - 1	10.2	58							25
Sept. 4	0.5 - 1	4.6	58							25
Sept. 17	0.5 - 1	9.1	58							15
2020										
May 29	0.5	8.6	57	8.9	57	9.2	58	8.3	61	0
	1 - 1.5	8.7	57	8.7	57	9.2	58	8.9	61	
	1.5 - 3	8.6	57			9.4	58	8.4	58	
June 12	0.5	8.2	56	8.2	57	8.7	57	7.2	59	10
	1-1.5	8.0	56	8.2	57	8.6	57	7.1	57	
	1.5 - 3	7.7	56			8.4	57	7.3	57	
June 19	0.5	7.9	58	7.9	59	8.0	59	6.4	61	10
	1-1.5	7.7	58	7.9	59	8.4	59	6.4	61	
	1.5 - 3	7.6	58			8.0	59	6.9	60	
July 17	0.5	8.6	59	7.6	63	7.1	61	7.3	65	20
	1-1.5	8.4	59			7.7	60	7.0	65	
	1.5 - 3	8.3	59					7.4	60	
July 24	0.5	8.3	59	7.8	63	7.7	62	6.7	63	20
	1-1.5	8.2	58			8.4	60	6.5	62	
	1.5 - 3	7.8	59			8.4	60	7.6	60	
Aug. 6	0.5	10.4	57	11.1	63	10.1	63	9.3	64	30
	1-1.5	10.2	57			9.8	63	8.3	62	
	1.5 - 3	10.1	56			9.3	64	7.8	61	
Aug. 21	0.5	9.7	59	9.2	65	10.4	65	10.5	66	35
	1-1.5	9.6	59			9.6	64	10.4	64	
	1.5 - 3	9.7	59					10.6	63	
Sept. 1	0.5	10.5	58	13.6	62	15.2	65	11.1	63	40
	1-1.5	10.3	57			16.9	65	11.2	63	
	1.5 - 3	10.3	57							
Sept. 18	0.5	10.7	49	11.7	52	13.0	53	13.5	55	40
	1-1.5	10.5	49			13.5	53	14.4	55	
	1.5 - 3	10.4	49							
Sept. 25	0.5	10.5	55	11.0	61	11.1	60	12.8	61	35
	1-1.5	10.3	55			11.7	59	13.1	61	
	1.5 - 3	10.1	55							

5.2.2 Environmental Analysis

In SD2, FERC lists the effects of continued Project operation on water quality within and downstream of the Project as a potential resource issue to be analyzed. The Licensee conducted a Water Quality Study to address the effects of continued Project operation on water quality within and downstream of the Project in accordance with the RSP and FERC's SPD.

The shallow water of Lake George creates conditions that yield a reduction in water quality. Agricultural and urban land use in the watershed also contribute to the potential for reduced water quality in the impoundment. The higher water temperatures and DO reduction during the summer and early fall are a consistent observed condition of the impoundment formed by the Junction Falls Development. While diurnal fluctuations in DO content generally follow an increasing trend during daylight hours, the values in Lake George are consistently lower than both upstream and downstream of this location. While this impairment is notable in Lake George, the DO increases at locations downstream of the Project, indicating that the negative impact is limited solely to the impoundment.

5.2.3 Proposed Environmental Measures

The Licensee will continue coordination with TU⁹ and discuss options for continued water quality monitoring at the Junction Falls Development.

5.2.4 Cumulative Effects

The water quality reduction in Lake George is not considered a cumulative effect because the state of Wisconsin cold-water standards for a trout fishery representative of the entire Kinnickinnic River are still being met. The Licensee's proposal to continue to operate and maintain the Project is not expected to result in cumulative impacts to water resources.

5.2.5 Unavoidable Adverse Effects

No known unavoidable adverse effects are identified as a result of the continued operation of the Project.

⁹ TU has been monitoring water quality in the Kinnickinnic River since 1992.

5.2.6 References

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5.3 Fish and Aquatic Resources

5.3.1 Affected Environment

The Kinnickinnic River (waterbody ID [WBIC] 2601800) is considered a Cool-Cold Mainstem under the state's Natural Community Determinations (Wisconsin DNR 2018a).¹⁰ The Kinnickinnic River is commonly called the “Kinni” (Kinnickinnic River Land Trust 2018). The Kinnickinnic River is approximately 22 miles long and has a drainage area of 174 square miles (USACE 2021). The stretch of the river upstream of the Project is commonly known as the Upper Kinnickinnic River or “Upper Kinni.” The Upper Kinni is characterized by slower and colder water (Kinnickinnic River Land Trust 2018). The stretch of the river downstream of the Project and below the Powell Falls Development is commonly known as the Lower Kinnickinnic River or “Lower Kinni.” The Lower Kinni flows into the St. Croix River. Downstream of the Project, in the Lower Kinni, the gradient increases and the river changes character, flowing through a deep canyon with steep wooded bluffs (Wisconsin DNR 2015a).

A natural waterfall, Junction Falls, likely provided an effective barrier to upstream fish migration and passage between the upper and lower river sections prior to dam construction (City of River Falls 2018). The Junction Falls dam was built at this natural waterfall. Currently, the lower shelf of the natural waterfall, which is located adjacent to and downstream of the dam, is still exposed as seen in Photo E-5.3-1. Prior to the Project being constructed, the natural waterfall likely provided an impediment to upstream fish migration (Deuschle and Beduhn 2017).

¹⁰ Cool (Cold-Transition) Mainstem streams are moderate-to-large but still wadeable perennial streams with cold to cool summer temperatures. Cold-water fishes are common to uncommon, transitional fishes are abundant to common, and warm water fishes are uncommon to absent. Headwater species are common to absent, mainstem species are abundant to common, and river species are common to absent.

Photo E-5.3-1: Junction Falls, with Dam and Lower Shelf of Natural Waterfall Cascades



Source: TRC 2014

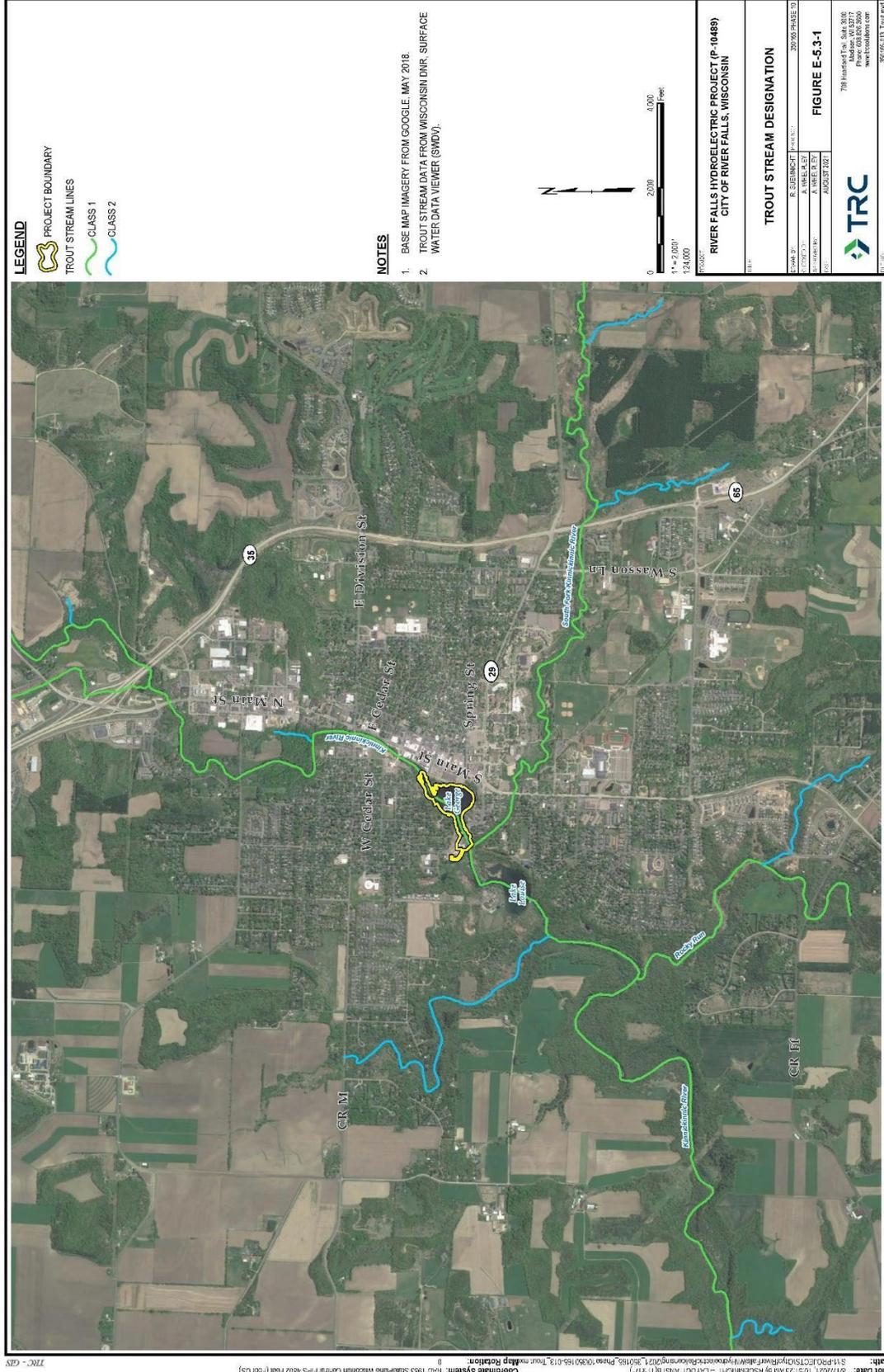
Aquatic habitat within the Project Boundary, includes a riverine stretch of the Kinnickinnic River and Lake George, the Project impoundment. The channel that empties into the Junction Falls impoundment is a straight riffle-pool that flows through the downtown section of the City. This section of the river was partially channelized during the early history of the City’s development. The channel bank in this section of the river is stabilized with riprap, while the riparian zone is a narrow border of primary and secondary growth forest (Inter-Fluve 2017). Lake George is also named by Wisconsin DNR as the Upper Kinnickinnic Pond (WBIC 2603700). The substrate of the Junction Falls impoundment is approximately 35% sand, 5% gravel, 5% rock, and 55% muck (Wisconsin DNR 2018b). The lake is shallow and eutrophic (Wisconsin DNR 1998). Downstream of the Junction Falls dam is an approximately 0.2-mile riverine reach that drains into upper Lake Louise. This reach downstream of the Junction Falls Development is deep, slow moving and has marginal trout habitat conditions. The South Fork of the Kinnickinnic River enters this reach and provides a source of relatively cool water to the Kinnickinnic River (Wisconsin DNR 1998).

The State of Wisconsin designates surface waters that provide outstanding recreational opportunities, support valuable fisheries and wildlife habitat, have good water quality, and are not significantly impacted by human activities as Outstanding or Exceptional Resource Waters in Chapter NR 102 (Wisconsin State Legislature 2020). The Kinnickinnic River is designated by the State of Wisconsin as both an Outstanding and Exceptional Resource Water (Figure E-5.2-2 located in Section 5.2). Upstream of the Project beginning above STH 35, and below the Powell

Falls dam, the Kinnickinnic River is designated as an Outstanding Resource Water because it has excellent water quality, high recreational and aesthetic value, high-quality fishing, and is free from point source or non-point source pollution (Wisc. stats. 102.10[1][d]25). The Kinnickinnic River downstream of STH 35 up to the Powell Falls dam is designated as an Exceptional Resource Water because it exhibits the same high-quality resource values as outstanding waters but may be affected by point source pollution or have the potential for future discharge from a small sewer community (Wisc. stats. 102.10[1][f]14). Water quality at the Project is discussed in more detail in Section 5.2 of this Exhibit E.

These outstanding to exceptional water quality conditions in the Kinnickinnic River provide suitable conditions for an exemplary trout fishery. The Kinni is considered a “world-class wild Brown Trout, (*Salmo trutta*), fishery” and is “probably the most productive trout stream in the entire Upper Mississippi River Basin” (TU 2021). The Wisconsin DNR categorizes the Kinnickinnic River as a Class I trout stream (Figure E-5.3.1) as it provides sustainable populations of naturally reproduced wild trout (Wisconsin DNR 2021a). For this reason, stocking of hatchery trout has not been necessary to supplement the Kinnickinnic River population since 1974 (TU 2021). Both Brown and Brook Trout occupy the Upper Kinnickinnic River, while primarily Brown Trout occupy the Lower Kinni (TU 2021).

Figure E-5.3-1. Trout Stream Designation



According to the most recent Wisconsin DNR stream classification report for the Kinnickinnic River, the Fish Habitat Ratings in the river varied from Fair to Good throughout the river. The sites with Fair ratings tended to have more fine sediments, fewer riffles and sometimes less fish cover. The Upper Kinni sites rated Fair also had more bank erosion (Wisconsin DNR 2015b).

Lake George supports warmer water fish species that are habitat generalists, such as panfish (*Centrarchids*) (Deuschle and Beduhn 2017). Carp (*Cyprinus carpio*) and other “rough fish” species are known to inhabit Lake George. Lake George was historically stocked with rainbow and brook trout (1951 – 1958) and was classified as a “trout, panfish lake.” (Wisconsin DNR 1962). Wisconsin DNR’s 1971 Surface Water Inventory of Wisconsin identified warm water species including crappie (*Pomoxis*), green sunfish (*Lepomis cyanellus*) and black bullhead (*Ameiurus melas*) in Lake George (Inter-Fluve 2017, Wisconsin DNR 2018b). A fishery survey (Wisconsin DNR 1998) at Lake George found that the lake had a limited fishery consisting of largemouth bass (*Micropterus salmoides*), panfish (*Centrarchids*), and brown trout (*Salmo trutta*).

Based on the observations of the Project operator, fish impingement or entrainment is rarely observed at the Project. Occasionally, moribund carp become impinged on the trashrack after the ice thaws in early spring. Rarely fish entrain into the powerhouse through the penstock and have been observed in the turbine gallery after flooding events (B. Hatch, pers. comm).

During consultation, agencies and stakeholders requested studies specific to aquatic resources. For this reason, the Licensee performed an aquatic invasive species survey within the Project Boundary and a mussel survey in the lower Kinnickinnic River. A riverine habitat survey was also performed in the lower Kinnickinnic River, downstream of the Project.

5.3.1.1 Aquatic Invasive Species Survey

Wisconsin’s invasive species rule, Wis. Admin. Code NR 40, makes it illegal to possess, transport, transfer or introduce certain invasive species in Wisconsin without a permit. The invasive species rule classifies invasive species into two categories: "Prohibited" and "Restricted." Prohibited invasive species include those not yet in Wisconsin or in only a few places, with eradication and prevention considered to be feasible. Control is required for Prohibited invasive species. Restricted invasive species include those which are already widely established in Wisconsin, with eradication considered to be unlikely (Wisconsin DNR 2021b).

An aquatic invasive plant species (AIS) survey was performed in Lake George on July 6-7, 2020 (Inter-Fluve 2020). Of the five aquatic plant species observed in Lake George, curly-leaf pondweed, *Potamogeton crispus*, was the sole invasive taxon. Curly-leaf pondweed, a Restricted invasive species, was the most abundant species, 50.0% of the total identified species among all sampling locations in Lake George (Table E-5.3-1). Aquatic vegetation was most abundant in the shallowest depths of the impoundment (Inter-Fluve 2020).

Table E-5.3-1. Aquatic macrophyte species observed in Lake George, July 2020

Species Names		Percent of sampled sites observed
Common	Scientific	
Common Waterweed	<i>Elodea canadensis</i>	45.7
Coontail	<i>Cerstophyllum demersum</i>	43.5
Curly-leaf Pondweed ¹	<i>Potamogeton crispus</i>	50.0
Fine-leaved Pondweed	<i>Stuckenia filiformis</i>	12.0
Sago Pondweed	<i>Stuckenia pectinata</i>	46.7

¹ Indicates invasive species.

5.3.1.2 Shoreline Habitat Survey

A Lake George shoreline habitat assessment survey was performed in the Project during July 2020 (GSRC 2020). This assessment was performed following the guidelines established in Wisconsin DNR’s “Lake Shoreland and Shallows Habitat Monitoring Field Protocol,” which dictate assessments use 3 habitat zones (riparian, bank, and littoral). Data recorded included percent riparian ground cover, presence of development, runoff concerns, and aquatic vegetation. The riparian buffer zone was 75 percent occupied by natural vegetation. The remaining coverage contained impervious surfaces, maintained lawns, and exposed soils. Notable runoff concerns were numerous point sources, such as sloped lawns and impervious surfaces. Fixed development also was observed in this zone. The bank zone contained a minor amount of rip rap associated with development. Lastly, the shallow littoral zone contained high densities of submerged aquatic vegetation. (GSRC 2020)

5.3.1.3 Mussel Survey

A field survey was performed in the 0.8 miles of the Kinnickinnic River upstream of the confluence of the St. Croix River and downstream of this location to the confluence of the Mississippi River during August 2020 to document mussel habitat (location, depth, and substrate), and the occurrence density, distribution, and relative abundance of any federally listed mussel species present (Kelner 2021). The results of this survey show the lower St. Croix River harbors a species rich mussel community in the study area with at least 19 live species including the federally endangered Higgins eye in some of the sampled sites, with pockets of moderately densely populated areas that appears minimally affected by zebra mussels at this time (Kelner 2020). A total of 55 live mussels representing 11 species were observed at the sampling location closest to the Kinnickinnic River confluence. *Amblema plicata* was the most abundant, 47.3% of all live mussels, followed by *Obliquaria reflexa*, 12.7%, and *Eurynia dilatata*, 12.7% (Kelner 2021). None of the federally listed species were observed at the site closest to the Kinnickinnic River confluence (Kelner 2021).

The lower Kinnickinnic River is less suitable for use of freshwater mussels due to the presence of loose shifting sand substrate. The Kinnickinnic River is a coldwater trout stream, which “typically do not harbor diverse mussel assemblages” (Kelner 2021). Kelner performed sampling in the lower Kinnickinnic River in July 2020 and found no evidence of live or relic mussels. No records of native mussels have been identified from the lower Kinnickinnic River (Kitchel pers. comm., as cited in Kelner 2021).

5.3.1.4 Riverine Habitat Assessment Study

A Riverine Habitat Evaluation Below Powell Falls (Inter-Fluve and GSRC 2020) was performed during September 2020 and thus recorded the riverine habitat conditions in the lower Kinnickinnic River altered by the flood event of June 2020. Five pre-determined reaches were delineated. While habitat types varied among the five reaches, the entire lower Kinnickinnic River had limited habitat complexity due to an absence of boulders, large woody debris (LWD), and undercut banks. It is likely that the June 2020 flood contributed to the lack of complexity by lengthening riffle features and relocating LWD from the channel to the floodplain. Deposition of fine sediment in the channel contributed to increased embeddedness, a common feature in all reaches, although it was not possible to determine if the cause was due to increased sediment inputs during the June flood or annual sediment loads. Aggradation of floodplain areas by overbank sedimentation caused by the flood was widespread. Pools were not completely filled with fine sediment, but depths were frequently limited to less than two feet. As LWD inputs occur in the future, the redistribution of bed material associated with this feature will increase habitat complexity by adding pool presence and depth and anchoring coarse substrate (Inter-Fluve and GSRC 2020).

5.3.2 Environmental Analysis

In SD2, FERC lists the effects of continued operation on aquatic species and habitat in the impoundment and downstream of the Project as potential resource issues to be analyzed. The following studies were conducted in accordance with the RSP and FERC’s SPD to address the effects continued operation would have on aquatic species and habitat in the impoundment and downstream of the Project.

- Aquatic Invasive Species Survey
- Lake George Shoreline Habitat Assessment
- Mussel Survey
- Riverine Habitat Evaluation below Powell Falls

The shallow water conditions of Lake George provide suitable conditions for the establishment and growth of curly-leaf pondweed. The continued operation of the Junction Falls Development will perpetuate the presence of this aquatic invasive species. Curly-leaf pondweed is unlikely to

become established in other locations downstream of Lake George since unsuitable lotic conditions are present in the Kinnickinnic River. The colonization of Lake George by curly-leaf pondweed has occurred since the most recent published aquatic macrophyte community survey conducted in 1996.

A macrophyte (rooted aquatic plant) survey conducted on Lake George during August 1996 found a community characterized by a moderate level of species diversity and plant densities (Konkel 1996). The plant community was dominated by flat-stemmed pondweed (*Potamogeton zosteriformis*) and Canadian or common waterweed (*Elodea canadensis*). While it is possible that flat-stemmed pondweed is present, yet not detected, in the July 2020 survey, it is apparent that curly-leaf pondweed has replaced flat-stemmed pondweed as the dominant macrophyte in Lake George. Since curly-leaf pondweed forms dense mats that likely inhibits growth of flat-stemmed pondweed and possibly other native species (Catling and Dobson 1985), the presence of it is undesirable in Lake George.

Wisconsin DNR recommended that RFMU collect macroinvertebrate samples upstream of Lake George and downstream of Lake Louise to assess project effects on water quality. TU also recommended a macroinvertebrate survey in Lake George. The FERC SPD did not recommend macroinvertebrate surveys. As outlined in the RSP, multiple macroinvertebrate surveys were conducted at various locations upstream and downstream of the Project between 1995 and 2005. Additional macroinvertebrate surveys conducted downstream of the Project in 2010, 2011, and 2013 suggest that the macroinvertebrate community and water quality conditions are representative of a healthy ecosystem, similar to survey results of the previous surveys. Project operation has not changed since the macroinvertebrate surveys were completed, and there is no information to suggest the macroinvertebrate community in the Kinnickinnic River would have changed since the last surveys were completed.

The Lake George macroinvertebrate community likely consists of organisms typically found in lentic environments with fine substrates (e.g., midges, scuds, worms, and burrowing mayflies). Differences in lentic and lotic macroinvertebrate communities are documented in scientific literature, and a survey of Lake George is not necessary to evaluate potential project effects on the macroinvertebrate community (Johnson et. al. 2004) (Dewson et. al. 2007) (Buffagni, A. 2019). Streams are typically more diverse and species rich than lakes, containing more grazers, shredders, and passive filter feeders whereas lakes typically have more predators and collector/gatherers (Johnson et. al. 2004).

Wisconsin DNR and TU recommended that RFMU conduct electrofishing in Lake George to describe the diversity and abundance of the fish community in the impoundment. The FERC Study Plan Determination did not recommend fish surveys in Lake George. Results from the historic fish surveys presented in the RSP show that the fish community in Lake George consist of few species. The historic survey results suggest that the fish community includes largemouth bass,

green sunfish, black crappie, common carp, black bullhead, white sucker, brown trout, and minnow species. Based on this information, it is expected that Lake George would support a fish community dominated by warmwater species. There is no information that suggests the fish community in Lake George would be substantially different than the existing survey data suggests because habitat conditions today are similar to habitats described during the previous surveys.

Risk of entrainment near the turbine intake by fishes inhabiting Lake George is low. The trashrack dimensions of the single intake at the Junction Falls Development is 103.4 sq ft. The hydraulic capacity of the Project is 80 cfs. This yields an intake velocity at the trashrack of 0.8 feet per second. Most fishes are capable of avoiding this low velocity associated with the intake.

The entire Kinnickinnic River is considered an Outstanding or Exceptional Resource Water and is expected to continue as such in conjunction with continued operation of the Project. The Kinnickinnic River premier fishery has maintained itself as a sustainable population of naturally reproduced wild trout since 1974 (Wisconsin DNR 2021a; TU 2021), prior to the beginning of the previous operational license of the Project in 1988.

The continued operation of the Project will not negatively impact freshwater mussels. The 2020 survey determined that the Lower Kinnickinnic River does not provide suitable habitat for freshwater mussels due to the influence of cold groundwater maintaining unsuitable water temperatures and the prevalence of easily mobilized loose instream substrate, sand. The sand substrate and influence of cold ground water temperatures do not provide suitable conditions for freshwater mussels, a habitat feature of the Lower Kinnickinnic River that is not influenced by the continued operations of the Project.

5.3.3 Proposed Environmental Measures

GSRC considered the value of performing a short-term drawdown in Lake George to consolidate sediment and stimulate native plant growth as a facet of the shoreline assessment study. GSRC determined that a short-term drawdown is not necessary during the next licensing term for invasive plant management (GSRC 2020). Curly-leaf pondweed is a Restricted invasive species, which means it is considered to be widespread in Wisconsin and management is not required by NR 40.

The Licensee is proposing no PME measures specifically for the further enhancement of fish and aquatic resources at the Project.

5.3.4 Cumulative Effects

No potential cumulative effects to fish and aquatic resources have been identified as a potential concern at the Project. The entire Kinnickinnic River is considered an Outstanding or Exceptional Resource Water and is expected to continue as such in conjunction with continued operation of the Project. The Kinnickinnic River premier fishery has maintained itself as a sustainable

population of naturally reproduced wild trout since 1974 (Wisconsin DNR 2021a; TU 2021), prior to the beginning of the previous operational license of the Project in 1988. The expectation is that the Licensee's proposal to continue to operate and maintain the Project under the existing operating run-of-river management is not expected to result in either geographic or temporal cumulative impacts to fish and aquatic resources.

5.3.5 Unavoidable Adverse Effects

No unavoidable adverse impacts to fish and aquatic communities are expected to occur as a result of the continued operation of the Project.

5.3.6 References

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5.4 Wildlife Resources

5.4.1 Affected Environment

Based on the available information on habitats within the proximity of the Project, a number of wildlife species occupy, or have the potential to occupy, the immediate vicinity of the Project.

TRC Environmental Corporation (TRC) conducted a Wetland, Riparian and Terrestrial Resources Survey of the Project in 2019 (TRC 2020). The purpose of the study was to map the major vegetation types, document common wildlife species within the cover type, map invasive botanical species, evaluate mature hardwood trees for potential long-eared bat habitat and evaluate rare, threatened and endangered species within the Project Boundary. Observations of wildlife species included direct sightings, signs, and calls. Within the Project Boundary and immediate area surrounding the Project, wildlife observed included teal, mallards, Canada geese, white egrets, red and gray squirrels, cedar waxwing, chipmunks, and a belted kingfisher. Mature trees present were in good health and no noticeable crevices were observed to provide suitable summer roosting habitat for the northern long-eared bat (TRC 2020).

Fish and Aquatic resources are discussed in Section 5.3 and Rare, threatened, and endangered species are discussed in Section 5.6 of this Exhibit E.

5.4.1.1 Mammals

The wildlife species assemblage known or considered likely to occur in and near the Project is typical of those found in urban landscapes in northwestern Wisconsin. Table E-5.4-1 presents a representative listing of mammal species known or considered likely to occur in or near the Project based upon habitat and life history information.

Table E-5.4-1. Mammal Species Known or Likely to Occur in or near the Project Boundary

Common Name	Scientific Name
Big brown bat	<i>Eptesicus fuscus</i>
Deer mouse	<i>Peromyscus maniculatus</i>
Eastern chipmunk	<i>Tamias striatus</i>
Eastern cottontail	<i>Sylvilagus floridanus</i>
Eastern coyote	<i>Canis latrans</i>
Fox squirrel	<i>Sciurus niger</i>
Gray squirrel	<i>Sciurus carolinensis</i>
Little brown bat	<i>Myotis lucifugus</i>
Meadow vole	<i>Microtus pennsylvanicus</i>
Mink	<i>Neovison vison</i>
Muskrat	<i>Ondatra zibethicus</i>
Opossum	<i>Didelphis marsupialis</i>
Raccoon	<i>Procyon lotor</i>
Red fox	<i>Vulpes vulpes</i>
Red squirrel	<i>Tamiasciurus hudsonicus</i>
Striped ground squirrel	<i>Citellus tridecemlineatus</i>
Striped skunk	<i>Mephitis mephitis</i>
White-footed mouse	<i>Peromyscus leucopus</i>
White-tailed deer	<i>Odocoileus virginianus</i>
Woodchuck	<i>Marmota monax</i>

Sources: FERC 1988, Wisconsin DNR 2018, RFMU 1987

5.4.1.2 Birds

Table E-5.4-2 presents a representative listing of avian species known or considered likely to occur in the Project Boundary based upon habitat, sightings, and life history information. Other species may also occur in the Project Boundary, including migratory species. Bald eagles are known to occur near the Project and are discussed in more detail in Section 5.6 of this Exhibit E.

Table E-5.4-2. Common Bird Species Known or Likely to Occur in or near the Project Boundary

Common Name	Scientific Name
American crow	<i>Corvus brachyrhynchos</i>
American goldfinch	<i>Carduelis tristis</i>
American robin	<i>Turdus migratorius</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Barn swallow	<i>Hirundo rustica</i>

Common Name	Scientific Name
Belted kingfisher	<i>Ceryle alcyon</i>
Black tern	<i>Chlidonias niger</i>
Black-capped chickadee	<i>Parus atricapillus</i>
Blue jay	<i>Cyanocitta cristata</i>
Blue-winged teal	<i>Anas discors</i>
Canada goose	<i>Branta Canadensis</i>
Canvasback	<i>Aythya valisineria</i>
Cerulean warbler	<i>Dendroica cerulea</i>
Common goldeneye	<i>Bucephala clangula</i>
Common grackle	<i>Quiscalus quiscula</i>
Common loon	<i>Gavia immer</i>
Common merganser	<i>Mergus merganser</i>
Common yellowthroat	<i>Geothlypis trichas</i>
Dark-eyed junco	<i>Junco hyemalis</i>
Eastern bluebird	<i>Sialia sialis</i>
Eastern kingbird	<i>Tyrannus tyrannus</i>
European starling	<i>Strunus vulgaris</i>
Gray catbird	<i>Dumetella carolinensis</i>
Great blue heron	<i>Ardea herodias</i>
Green heron	<i>Butorides virescens</i>
Herring gull	<i>Larus argentatus</i>
House finch	<i>Haemorhous mexicanus</i>
House sparrow	<i>Passer domesticus</i>
House wren	<i>Troglodytes aedon</i>
Lesser scaup	<i>Aythya affinis</i>
Mallard	<i>Anas platyrhynchos</i>
Mourning dove	<i>Zenaida macroura</i>
Northern cardinal	<i>Richmondena cardinalis</i>
Pied-billed grebe	<i>Podilymbus podiceps</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Red-wing blackbird	<i>Agelaius phoeniceus</i>
Ring-billed gull	<i>Larus delawarensis</i>
Ring-necked duck	<i>Aythya collaris</i>
Ring-necked pheasant	<i>Phasianus colchicus</i>
Rock dove	<i>Columba livia</i>
Ruby-throated hummingbird	<i>Archilocus colubris</i>
Trumpeter swan	<i>Cygnus buccinator</i>
Tundra swan	<i>Cygnus columbianus</i>
White-breasted nuthatch	<i>Sitta carolinensis</i>
Wood duck	<i>Aix sponsa</i>

Sources: FERC 1988, RFMU 1987, Bird City Wisconsin 2021

5.4.1.3 Terrestrial Herptiles

Herptiles include five main groups: anurans (frogs and toads), snakes, lizards, salamanders, and turtles. The herptile species represented in Table E-5.4-3 include those known to occur in Pierce County, Wisconsin.

Table E-5.4-3. Terrestrial Herptiles of Pierce County, Wisconsin

Common Name	Scientific Name
American toad	<i>Anaxyrus americanus</i>
Blue-spotted salamander	<i>Ambystoma laterale</i>
Boreal chorus frog	<i>Pseudacris maculata</i>
Bullfrog	<i>Lithobates catesbeiana</i>
Common gartersnake	<i>Thamnophis sirtalis</i>
Cope's gray treefrog	<i>Hyla chrysoscelis</i>
DeKay's brownsnake	<i>Storeria dekayi</i>
Eastern foxsnake	<i>Pantherophis vulpina</i>
Eastern hog-nosed snake	<i>Heterodon platirhinos</i>
Eastern newt	<i>Notophthalmus viridescens</i>
Eastern red-backed salamander	<i>Plethodon cinereus</i>
Eastern tiger salamander	<i>Ambystoma tigrinum</i>
Green frog	<i>Lithobates clamitans</i>
Grey treefrog	<i>Hyla versicolor</i>
Milksnake	<i>Lampropeltis triangulum</i>
North American racer*	<i>Coluber constrictor</i>
Northern (common) watersnake	<i>Nerodia sipedon</i>
Northern leopard frog	<i>Lithobates pipiens</i>
Painted turtle	<i>Chrysemys picta</i>
Red-bellied snake	<i>Storeria occipitomaculata</i>
Smooth greensnake	<i>Opheodrys vernalis</i>
Snapping turtle	<i>Chelydra serpentina</i>
Spiny softshell	<i>Apalone spinifera</i>
Spring peeper	<i>Pseudacris crucifer</i>
Timber rattlesnake*	<i>Crotalus horridus</i>
Wood frog	<i>Lithobates sylvaticus</i>

Source: Wisconsin DNR 2020

5.4.1.4 Terrestrial Invasive Species

Emerald ash borer (EAB) is an invasive species that has been found throughout Wisconsin, including Pierce County. EAB is an insect that attacks and kills trees in the ash family. The City of River Falls had its first confirmed case of EAB on July 1st, 2019. The State of Wisconsin Department of Agriculture Trade and Consumer Protection (DATCP) and the Wisconsin DNR have prepared a response plan for EAB. The plan identifies the appropriate response to be taken by State Federal agencies to minimize the effects of EAB on the Northern American Ash tree. The City of River Falls has developed an Emerald Ash Borer Community Preparedness Plan to identify appropriate and effective actions the City will take to manage the effects EAB will have on the urban forest (City of River Falls 2019). Ash trees in the City are slowly being replaced to stop the spread of Emerald Ash Borer disease (Bird City 2021).

5.4.2 Environmental Analysis

In SD2, FERC lists the effects of continued operation on riparian, littoral, and wetland habitat and associated wildlife as potential resource issues to be analyzed. During consultation, no other agencies or stakeholders expressed concern, provided comments or requested studies with respect to wildlife resources. A Wetland, Riparian and Terrestrial Resources Survey was conducted in accordance with the RSP and FERC’s SPD. The Licensee is proposing no changes in Project operation that would affect wildlife.

5.4.3 Proposed Environmental Measures

The City of River Falls’ 2005 Comprehensive Plan includes a Natural resources chapter that addresses resource protection to minimize habitat loss related to land development. The City is in the process of drafting a new plan over 2021-2022 since there has been rapid growth since 2005 (Bird City 2021).

The City of River Falls is a member of the Bird City Wisconsin program and is recognized as a “Bird City.” The Bird City Wisconsin program provides public recognition to municipalities that understand that healthy communities are the sum of many parts, including birds. The City of River Falls works closely with groups to promote activities and enhance prairie and oak savanna habitat where much of bird monitoring takes place (Bird City 2021).

There are no existing measures in-place relative to wildlife resources at the Project. Because there are no impacts to wildlife resources anticipated under proposed Project operations, no PME measures are proposed.

5.4.4 Cumulative Effects

In SD2, no potential cumulative effects to wildlife resources were identified as a potential concern at the Project. The Licensee’s proposal to continue to operate and maintain the Project under the existing operating regime is not expected to result in either geographic or temporal cumulative impacts to wildlife.

5.4.5 Unavoidable Adverse Impacts

Continued operation of the Project, as proposed, will have no significant unavoidable adverse impacts to Project wildlife or their habitats.

5.4.6 References

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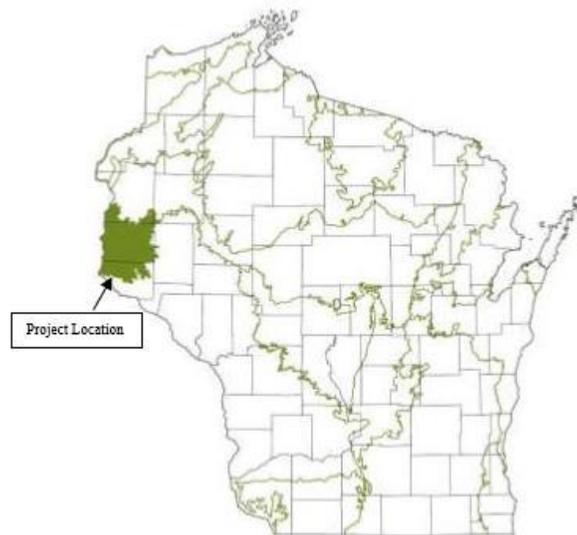
Available online: <http://dnr.wi.gov/topic/WildlifeHabitat/herps.asp>.

5.5 Botanical Resources

5.5.1 Affected Environment

The Project is located on the Kinnickinnic River in the Western Prairie Ecological Landscape in northwest Wisconsin (Wisconsin DNR 2015). Figure E-5.5-1 depicts the location of the Western Prairie Ecological Landscape in Wisconsin. This ecological landscape is characterized by rolling till plains with moraines formed by glaciers. Precipitation and seasonal temperatures are adequate to support agricultural production. While agriculture is the primary land use in this ecological landscape, about one third of the of the region is grasslands and forests (Wisconsin DNR 2015).

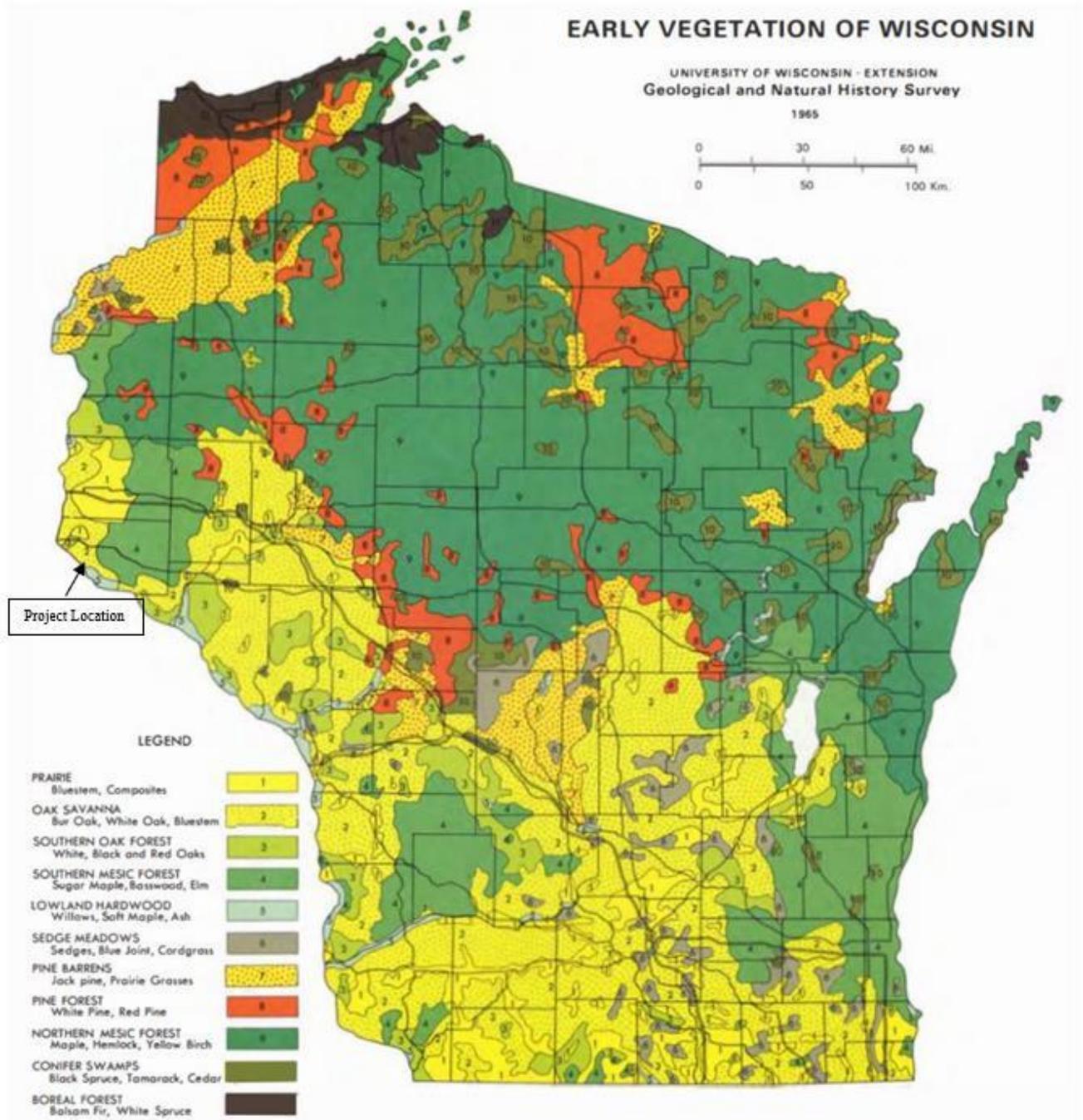
Figure E-5.5-1. Western Prairie Ecological Landscape



Source: Wisconsin DNR 2015

Historically, the natural vegetation in and surrounding the Project was part of the Oak Savanna plant community (Figure E-5.5-2) consisting of bur oak (*Quercus macrocarpa*), white oak (*Quercus alba*), and bluestem, and dominated by other grasses, herbaceous plants, and some shrubs (RFMU 1987). Today, much of the land surrounding the Project has been altered by residential and commercial land uses and includes maintained lawns, parkland, gardens, and trees. Within the Project Boundary, much of the land is managed by the City as natural and maintained park lands.

Figure E-5.5-2. Early Vegetation of Wisconsin



Source: University of Wisconsin 1965

RFMU conducted a Wetland, Riparian, and Terrestrial Resources survey in 2019 to document wetland, riparian, and terrestrial resources in the Project Boundary (TRC 2020). Major vegetation cover types in the Project Boundary included shallow marsh, bottomland hardwood woodlands, young upland woodland, upland shrub, and mature woodland habitats (Figure E-5.5-3). Botanical species observed during the survey are listed in Table E-5.5-1, broken out by vegetative cover type. Species presence is marked with an “X” and dominant species are indicated by a bold “X” in the table.

Table E-5.5-1. Botanical Species in the Study Area*

Scientific Name	Common Name	Conservation Status**	Form	Shallow Marsh	Bottomland Hardwoods	Meadow	Young Upland Woodlands	Upland Shrub	Mature Woodlands
<i>Acer negundo</i>	Ash-leaved maple	Native	T		X			X	
<i>Acer platanoides</i>	Norway maple	Introduced	T						X
<i>Acer saccharinum</i>	Silver maple	Native	T	X	X				X
<i>Aesculus glabra</i>	Ohio buckeye	Introduced	T						X
<i>Betula nigra</i>	River birch	Native	T						X
<i>Catalpa speciosa</i>	Northern catalpa	Introduced	T		X				
<i>Celtis occidentalis</i>	Northern hackberry	Native	T						X
<i>Fraxinus nigra</i>	Black ash	Native	T		X				
<i>Fraxinus pennsylvanica</i>	Green ash	Native	T		X			X	X
<i>Juglans nigra</i>	Black walnut	Native	T		X			X	X
<i>Juniperus virginiana</i>	Eastern red-cedar	Native	T						X
<i>Malus sp.</i>	Apple	Introduced	T						X
<i>Picea sp.</i>	Spruce	Introduced	T						X
<i>Pinus resinosa</i>	Red pine	Native	T						X
<i>Populus deltoides</i>	Eastern cottonwood	Native	T		X				
<i>Quercus alba</i>	White oak	Native	T	X					
<i>Quercus macrocarpa</i>	Bur oak	Native	T						X
<i>Quercus rubra</i>	Red oak	Native	T						X
<i>Robinia pseudoacacia</i>	Black locust	Invasive	T						X
<i>Tilia americana</i>	American basswood	Native	T		X		X		X
<i>Ulmus americana</i>	American elm	Native	T		X			X	X
<i>Ulmus pumila</i>	Siberian elm	Invasive	T						X
<i>Cornus alba</i>	Red osier dogwood	Native	S						X
<i>Lonicera tatarica</i>	Tartarian honeysuckle	Invasive	S		X				
<i>Rhamnus cathartica</i>	Common buckthorn	Invasive	S		X			X	X
<i>Rhus glabra</i>	Smooth sumac	Native	S					X	X
<i>Rhus typhina</i>	Staghorn sumac	Native	S						X
<i>Ribes cynosbati</i>	Dogberry	Native	S						X
<i>Rubus idaeus</i>	American red raspberry	Native	S			X			X
<i>Sambucus nigra</i>	American elder	Native	S		X	X			

Scientific Name	Common Name	Conservation Status**	Form	Shallow Marsh	Bottomland Hardwoods	Meadow	Young Upland Woodlands	Upland Shrub	Mature Woodlands
<i>Zanthoxylum americanum</i>	Common prickly-ash	Native	S						X
<i>Agrimonia gryposepala</i>	Common agrimony	Native	H			X			
<i>Ambrosia trifida</i>	Giant ragweed	Native	H			X			X
<i>Amphicarpaea bracteata</i>	American hog-peanut	Native	H			X			
<i>Arctium minus</i>	Common burdock	Introduced	H			X		X	
<i>Arisaema triphyllum</i>	Indian turnip	Native	H		X				
<i>Bidens cernua</i>	Nodding beggar-ticks	Native	H	X	X				
<i>Campanula rapunculoides</i>	Creeping bellflower	Invasive	H						X
<i>Cirsium vulgare</i>	Bull thistle	Introduced	H					X	
<i>Daucus carota</i>	Queen Anne's-lace	Introduced	H			X			
<i>Echinocystis lobata</i>	Balsam-apple	Native	H			X			X
<i>Erigeron annuus</i>	Annual fleabane	Native	H			X			
<i>Eupatorium rugosum</i>	White snakeroot	Native	H		X		X	X	X
<i>Eutrochium maculatum</i>	Spotted Joe-Pye weed	Native	H		X				
<i>Glechoma hederacea</i>	Creeping-Charlie	Introduced	H		X	X			
<i>Helianthus giganteus</i>	Giant sunflower	Native	H						X
<i>Hemerocallis fulva</i>	Orange daylily	Introduced	H		X				
<i>Impatiens capensis</i>	Orange jewelweed	Native	H	X	X	X			X
<i>Impatiens pallida</i>	Pale touch-me-not	Native	H		X				X
<i>Iris versicolor</i>	Blue flag	Native	H	X					
<i>Laportea canadensis</i>	Canadian wood-nettle	Native	H		X				
<i>Leonurus cardiaca</i>	Lion's tail	Introduced	H						X
<i>Lycopus americanus</i>	American water-horehound	Native	H		X				
<i>Lysimachia nummularia</i>	Moneywort	Invasive	H		X				
<i>Maianthemum canadense</i>	Canada bead-ruby	Native	H						X
<i>Maianthemum racemosum</i>	False Solomon's-seal	Native	H						X
<i>Maianthemum stellatum</i>	Little false Solomon's-seal	Native	H						X
<i>Melilotus alba</i>	White sweet clover	Introduced	H		X				
<i>Monarda fistulosa</i>	Bee balm	Native	H						X
<i>Oenothera biennis</i>	Bastard evening-primrose	Native	H					X	
<i>Osmorhiza claytonii</i>	Bland sweet cicely	Native	H		X				

Scientific Name	Common Name	Conservation Status**	Form	Shallow Marsh	Bottomland Hardwoods	Meadow	Young Upland Woodlands	Upland Shrub	Mature Woodlands
<i>Pastinaca sativa</i>	Wild parsnip	Invasive	H			X			
<i>Persicaria hydropiper</i>	Marsh-pepper smartweed	Introduced	H		X				
<i>Persicaria maculosa</i>	Heart's-ease	Introduced	H	X	X				
<i>Persicaria pennsylvanica</i>	Pennsylvania knotweed	Native	H			X			
<i>Phryma leptostachya</i>	American lop-seed	Native	H						X
<i>Pilea pumila</i>	Canadian clearweed	Native	H	X	X				
<i>Rudbeckia laciniata</i>	Cut-leaved coneflower	Native	H			X			
<i>Silene latifolia</i>	Bladder campion	Introduced	H		X				
<i>Silphium integrifolium</i>	Prairie rosinweed	Native	H			X			
<i>Silphium perfoliatum</i>	Cup-plant	Native	H						X
<i>Solidago canadensis</i>	Canadian goldenrod	Native	H			X		X	
<i>Solidago flexicaulis</i>	Broad-leaved goldenrod	Native	H						X
<i>Stellaria media</i>	Common chickweed	Introduced	H		X				
<i>Symphotrichum cordifolium</i>	Common blue heart-leaved aster	Native	H						X
<i>Symphotrichum pilosum</i>	Awl aster	Native	H			X		X	
<i>Thalictrum dasycarpum</i>	Purple meadow-rue	Native	H						X
<i>Toxicodendron radicans</i>	Common eastern poison-ivy	Native	H						X
<i>Typha angustifolia</i>	Narrow-leaved cat-tail	Invasive	H	X					
<i>Verbascum thapsus</i>	Common mullein	Introduced	H					X	
<i>Viola sp.</i>	Violet	Native	H		X				
<i>Leersia oryzoides</i>	Rice cut grass	Native	G	X					
<i>Phalaris arundinacea</i>	Reed canary grass	Invasive	G	X					
<i>Poa pratensis</i>	Kentucky bluegrass	Introduced	G				X		
<i>Parthenocissus quinquefolia</i>	Virginia creeper	Native	V		X				X
<i>Vitis riparia</i>	Frost grape	Native	V					X	X

Total Number of Species per Cover Type

Form: V-vine, T-tree, S-shrub, H-herb, G-grass, F-fern

Dominant species are noted with a bold "X"

*The Study Area was based on an approximate Project Boundary used for relicensing studies. The Study Area boundary is slightly larger than the proposed Project Boundary depicted in Exhibit G.

**Invasive species status was determined using the Wisconsin NR 40 list of invasive botanical species

10 32 17 4 13 44

5.5.1.1 Wetland Habitat at the Project

Wetland, riparian, and littoral zone habitat within and surrounding the Project are associated with the Kinnickinnic River and Lake George.

Wetlands are essential breeding, rearing, and feeding grounds for many species of fish and wildlife. Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water (Cowardin et. al. 1979). Wetlands have the potential to provide a variety of ecological functions including groundwater discharge/recharge, floodflow alteration, fish habitat, sediment/toxicant/pathogen retention, nutrient removal/retention/transformation, production export, sediment/shoreline stabilization, and wildlife habitat. Wetlands also support human-defined values such as recreation, educational/scientific use, uniqueness/heritage, visual quality/aesthetics, and threatened/endangered species habitat (USACE 1999). Understanding the distribution and characteristics of wetlands on the landscape is therefore useful for land use planning and management.

Wetland types mapped in the Project Boundary include shallow marsh, bottomland hardwood woodlands, and fresh (wet) meadow.

Shallow Marsh

Shallow marshes are characterized by emergent aquatic plants growing in permanent to seasonal, shallow water (Eggers and Reed, 2015). Emergent aquatic plants typically become established and spread when water levels are low or when the marsh substrate is exposed, and then persist when water levels rise. There is a small area of shallow marsh (approximately 0.10 acres) within a backwater location along the west side of the Kinnickinnic River in the Project Boundary. Narrowleaf cattail is the prominent species.

Bottomland Hardwood Woodlands

Bottomland hardwood woodlands are found along rivers and streams, generally in broad floodplains with at least occasional flooding beyond the stream channel confines. The bottomland hardwood cover type was observed along the fringe of Lake George and the Kinnickinnic River, as well as in two broad floodplain areas. This cover type comprises 1.2 acres of the Project Boundary. Silver maple is the prominent overstory species, and wood nettle, jewelweed and pale touch-me-not are abundant in the herbaceous strata.

Fresh (Wet) Meadow

Fresh (wet) meadows are dominated by grasses and forbs and may represent younger communities that indicate recent disturbances by drainage, siltation, cultivation, pasturing, peat fires and/or temporary flooding (Eggers and Reed, 2015). Approximately (0.24 acres) of young bottomland hardwood woodlands interspersed with fresh (wet) meadow is located immediately

below the Junction Falls dam. This plant community is influenced by the flow over the dam due to water spray from the dam and turbulent waters.

5.5.1.2 Upland Habitat at the Project

The upland areas within the Project Boundary are associated with parkland along the west side. The east side primarily has steep, wooded slopes adjacent to commercial development. Upland habitat types mapped in the Project Boundary include young upland woodland, upland shrub, and mature woodland.

Upland Shrub

The upland shrub cover type has a preponderance of shrub or small tree species interspersed with forbs. South of the bridge between W. Cascade Avenue and S. Winter Street, and on the steep, west bank below the Junction Falls powerhouse there is an area of an upland shrub cover type (approximately 0.48 acres). It is also composed of ruderal species with smooth sumac and box elder prominent in the shrub layer, and Canada goldenrod prominent in the forb layer.

Mature Woodland

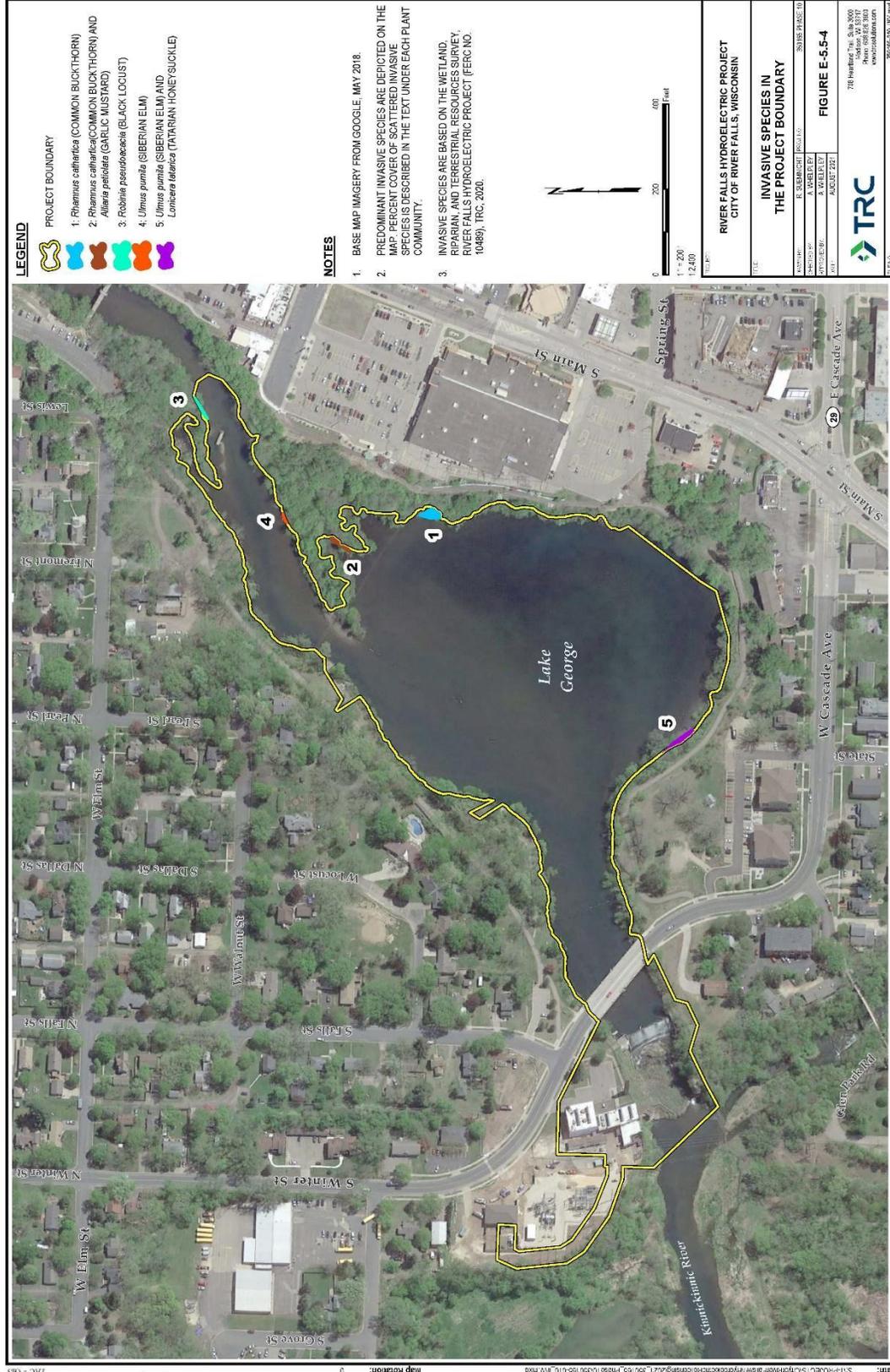
Mature woodlands include deciduous tree species that have reached a height and maturity level for reproduction. Mature woodland encompasses approximately 0.26 acres along the western side of Lake George and the Kinnickinnic River in the Project Boundary. Prominent overstory species include black walnut, red oak, and basswood. A variety of species comprised the ground strata but none were dominant.

Invasive Terrestrial and Wetland Botanical Species

Wisconsin's invasive species rule, Wis. Admin. Code NR 40, makes it illegal to possess, transport, transfer or introduce certain invasive species in Wisconsin without a permit. The invasive species rule classifies invasive species into two categories: "Prohibited" and "Restricted." Prohibited invasive species include those not yet in Wisconsin or in only a few places, with eradication and prevention considered to be feasible. Control is required for Prohibited invasive species. Restricted invasive species include those which are already widely established in Wisconsin, with eradication considered to be unlikely (Wisconsin DNR 2021).

The Wisconsin NR 40 list of invasive botanical species was used to determine which species to consider invasive during the Wetland, Riparian, and Terrestrial Resources survey conducted at the Project (TRC 2020). Invasive species were scattered throughout the Project Boundary (Figure E-5.5-4), generally in small quantities. Mapped invasive botanical species in the Project Boundary included Tatarian honeysuckle and Siberian Elm (0.02 acres), common buckthorn (0.02 acres), common buckthorn and garlic mustard (0.01 acres) black locust (< 0.01 acres), and Siberian elm (<0.01 acres). The mapped invasive species in the Project Boundary are all classified as Restricted invasive species.

Figure E-5.5-4. Invasive Species in the Project Boundary



Aquatic invasive botanical species are discussed in Section 5.3 of this Exhibit E.

5.5.2 Environmental Analysis

In SD2, FERC lists the effects of continued operation on riparian, littoral, and wetland habitat and associated wildlife as a potential resource issue to be analyzed. A Wetland, Riparian and Terrestrial Resources Survey was conducted to document habitat types, dominant species, and invasive species at the Project. The lands around the Project include maintained parkland and natural areas. The Licensee is proposing no changes in Project operation or maintenance activities in the lands surrounding the Project. As a result, botanical resources within the Project area are not known or expected to be adversely impacted by Project operations.

The presence or absence of invasive plants in the Project Boundary and surrounding area is not specifically related to Project operations. Likewise, the occurrence of these species is not expected to be affected by the continued operation of the Project. The invasive plant species that occur within the Project Boundary are classified as Restricted invasive species that are established in Wisconsin and are typically associated with areas of human disturbance. There are no active or recurring Project operations that would introduce or encourage the establishment of botanical invasive species.

5.5.3 Proposed Environmental Measure

Invasive species present in the Project Boundary are considered to be Restricted invasive species, which means these species are widespread in Wisconsin and management is not required by NR 40. Common reed (*Phragmites australis*), a Prohibited invasive species, is present downstream of the Project, outside of the Project Boundary. RFMU will manage this species, and/or others considered to be Prohibited invasive species if observed in the Project Boundary in the future.

Park lands will continue to be maintained in a manner consistent with current maintenance activities (e.g. mowing of lawns around trails and benches) and natural areas surrounding the Project will remain undisturbed. Because there are no impacts to botanical resources anticipated under proposed Project operations, no additional measures are proposed.

5.5.4 Cumulative Effects

No potential cumulative effects to botanical resources have been identified as a potential concern at the River Falls Project. The Licensee's proposal to continue to operate and maintain the Project under the existing operating regime is not expected to result in either geographic or temporal cumulative impacts to botanical resources.

5.5.5 Unavoidable Adverse Impacts

Continued operation of the Project will have no significant unavoidable adverse impacts to existing Project botanical resources.

5.5.6 References

- Cowardin, L.M., V.C. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. United States Fish and Wildlife Service, Washington, D.C. 131 pp.
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5.6 Rare, Threatened and Endangered Species

5.6.1 Affected Environment

To assess the potential occurrence of rare, threatened, and endangered (RTE) species in the Project Boundary and surrounding area, the Licensee consulted federal and state resources. Information requests were made to the USFWS and the Wisconsin DNR Natural History Inventory (NHI) Portal Endangered Resources Review. The state of Wisconsin also identifies state species and natural communities of Special Concern. While Special Concern species and natural communities are not legally protected, they are particularly vulnerable and could become threatened or endangered due to restricted distribution, low or declining numbers, specialized habitat needs, or other factors.

The USFWS Information for Planning and Conservation (IPaC) tool allows for RTE searches within a specified area. The site specific USFWS IPaC search of the Project Boundary listed one bat (northern long-eared bat), three species of mussels (Higgins eye, snuffbox, and spectaclecase), and one plant (prairie bush-clover) in the February 12, 2021 review (Appendix E-3). No critical habitats are located in the Project Boundary (USFWS 2021). The results are listed in Table E-5.6-1.

The Wisconsin DNR NHI is a statewide inventory of known locations of rare and endangered species and communities. The NHI Township Tool was first evaluated in 2018, which included several state-listed RTE species within Township 27 North Range 19 West (Wisconsin DNR 2020a, Appendix E-3). The Wisconsin DNR NHI Public Portal Endangered Resources Preliminary Assessment stated that endangered resources are present and that further actions are required to ensure compliance with Wisconsin's Endangered Species Law (s. 29.604 Wis. Stats.) and the Federal Endangered Species Act (16 USC ss 1531-43). The Licensee first requested a site-specific Endangered Resources Review from Wisconsin DNR in 2018 prior to submittal of the PAD. RFMU requested an updated Endangered Resources Review on January 29, 2021 and the results were received on February 4, 2021 (Wisconsin DNR ER Log # 21-088). The results of this site-specific review contain data that are considered sensitive and are not subject to Wisconsin's Open Records Law (per s. 23.27, Wis. Stats.). Due to the confidential nature of the results, the details of the report are not provided in this public filing; these results are included in Appendix E-3, and filed with FERC as a Privileged document.

In summary, there were no RTE species identified in the Wisconsin DNR Endangered Resources Review with required actions, three (3) species (including one insect, one bird, and one plant species) and one (1) community with recommended actions, and fifteen (15) species or communities with no required or recommended actions. Recommended actions include assuming species presence and fencing off areas of potential habitat, using native trees, shrubs, and flowering plant species in landscaping, and avoid human activity near active nests. The Licensee will consult

with the appropriate agencies, including Wisconsin DNR and USFWS, and undertake all actions needed to comply with state and/or federal endangered species laws.

RFMU conducted a Wetland, Riparian, and Terrestrial Resources survey in 2019 that evaluated the potential presence of federal and state listed rare, threatened, and endangered species habitat in the Project Boundary, including mature hardwood trees for potential northern long-eared bat habitat (TRC 2020). Within the Project Boundary, habitat types include shallow marsh, bottomland hardwood woodland, meadow, young upland woodland, upland shrub, and mature woodland. While appropriate habitat for prairie bush-clover is present in nearby Oak Savanna habitat (located outside the Project Boundary), no suitable habitat was present within the Project Boundary for any of the Federal or state-listed plant species or communities, nor was any high-quality habitat observed (TRC 2020). Mature trees present within the Project Boundary were in good health with no noticeable crevices or exfoliating bark to provide suitable summer roosting habitat for the northern long-eared bat.

Table E-5.6-1. Federally Listed Rare, Threatened, and Endangered (RTE) Species that May Occur in the Project Vicinity

Common Name	Scientific Name	Status ²	Critical Habitat*
Northern long-eared bat ¹	<i>Myotis septentrionalis</i>	FT, ST	N/A
Higgins eye (pearly mussel) ¹	<i>Lampsilis higginsii</i>	FE, SE	N/A
Snuffbox mussel ¹	<i>Epioblasma triquetra</i>	FE, SE	N/A
Spectaclecase (mussel) ¹	<i>Cumberlandia monodonta</i>	FE, SE	N/A
Prairie bush-clover ¹	<i>Lespedeza leptostachya</i>	FT, SE	N/A
Bald eagle	<i>Haliaeetus leucocephalus</i>	Protected ³	N/A

Source: ¹ USFWS 2021

FE (Federal Endangered), FT (Federal Threatened)

³ The Bald Eagle is federally protected under the Bald and Golden Eagle Protection Act, and under the Migratory Bird Treaty Act, and managed by the State of Wisconsin as a “protected wild animal” under NR 10.02 (6).

* N/A = No critical habitat has been designated for the species.

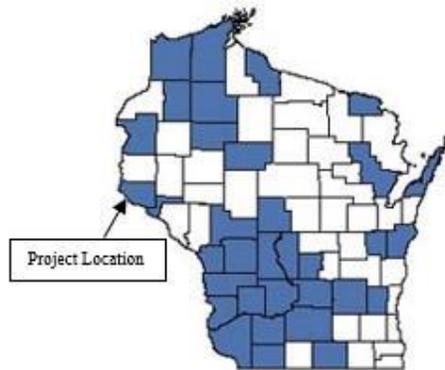
Northern Long-eared Bat –Northern long-eared bats hibernate in caves and mines during the winter and in summer roost singly or in colonies in cavities, underneath bark, crevices, or hollows of both live and dead trees (typically ≥3 inches diameter at breast height [dbh]) (USFWS 2014, USFWS 2019). This opportunistic bat selects roosts, using tree species based on presence of cavities or crevices or presence of peeling bark. Northern long-eared bats emerge at dusk to feed and primarily fly through the understory of forested areas feeding on a variety of insects (USFWS 2021).

Suitable summer habitat for northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥ 3 inches dbh that have exfoliating bark, cracks, crevices, and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Northern long-eared bats typically occupy their summer habitat from mid-May through mid-August each year and the species may arrive or leave some time before or after this period. (TRC 2020)

The northern long-eared bat occurs throughout much of the midwestern and eastern United States but is experiencing population declines due to white-nose syndrome (USFWS 2021). Due to declines caused by white-nose syndrome and continued spread of the disease, the northern long-eared bat was listed under the Endangered Species Act on April 2, 2015 (USFWS 2020). The USFWS also developed a final 4(d) rule, which published in the Federal Register on January 14, 2016 (USFWS 2018c). For the northern long-eared bat, the 4(d) rule tailors protections to areas affected by white-nose syndrome during the bat's most sensitive life stages (USFWS 2020). The rule is designed to protect the bat while minimizing regulatory requirements for landowners, land managers, government agencies and others within the species' range (USFWS 2020).

This species is included in the Wisconsin Wildlife Action Plan as a Species of Greatest Conservation Need (SGCN) (Wisconsin DNR 2015). The Wisconsin NHI Portal database contains all current northern long-eared bat roost sites and hibernacula in Wisconsin. The NHI Portal contains verified survey results from Wisconsin DNR, USFWS, and private organizations. The northern long-eared bat was not listed in the site-specific Endangered Resources Review (Appendix E-3), thus per USFWS' 4(d) rule, it was determined that this project is more than 150 feet from a known maternity roost tree and is more than 1/4 mile from a known hibernacula. Figure E-5.6-1 shows counties in Wisconsin with documented occurrences of northern long-eared bats.

Figure E-5.6-1. Wisconsin Counties with Documented Occurrences of Northern Long-eared Bat¹¹



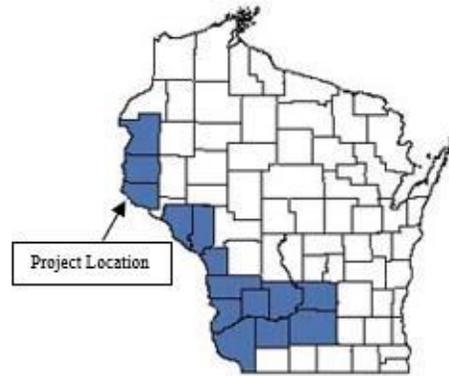
Source: Wisconsin DNR 2020b

Higgins eye – Higgin's eye is a mussel found in large rivers in the western part of the state. It is found in flowing waters with various stable substrate types but seems to prefer stable sand. Several common fish species have been recorded as its host, including drum, large and small mouth bass, walleye, and sauger. The species inhabits deeper waters of rivers and large streams with gravel or sand substrates. (Wisconsin DNR 2021). In Pierce County, the Higgins eye mussel is known to occur in the St. Croix River; it is not known to occur in the Kinnickinnic River (Wisconsin DNR 2018). This species is unlikely to be present in the Project Boundary due to lack of appropriate habitat and host fish species (Wisconsin DNR 2018). This species is included in the Wisconsin Wildlife Action Plan as a SGCN (Wisconsin DNR 2015).

A mussel survey was conducted in the lower 0.81 miles of the Kinnickinnic River and the lower reach of the St. Croix River from the “Kinnie Narrows” formed by the Kinnickinnic River delta at river mile 6.5 to Prescott, WI (river mile 0). The lower Kinnickinnic River lacked native mussels during this 2020 study. The lower St. Croix River harbors a species rich mussel community in the study area with at least 19 live species, including the federally endangered Higgins eye. (Kelner 2021) Figure E-5.6-2 shows counties in Wisconsin with documented occurrences of Higgins eye.

¹¹ Map based on NHI data standard observations and is not meant as a comprehensive map of all observations.

Figure E-5.6-2. Wisconsin Counties with Documented Occurrences of Higgins Eye

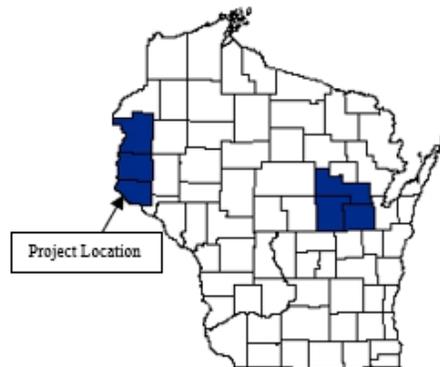


Source: Wisconsin DNR 2020c

Snuffbox – Snuffbox mussel is found in very clean water of large to medium-sized streams in the Mississippi River and Lake Michigan drainages. It is most abundant in large riffle areas. Known populations are small and local. The known fish hosts are the log-perch and banded sculpin. The species inhabits medium to large, clear rivers in gravel riffles. (Wisconsin DNR 2020d). In Pierce County, the snuffbox is known to occur in the St. Croix River; it is not known to occur in the Kinnickinnic River (Wisconsin DNR 2018). This species is unlikely to be present in the Project Boundary due to lack of appropriate habitat and host fish species (Wisconsin DNR 2018). This species is included in the Wisconsin Wildlife Action Plan as a SGCN (Wisconsin DNR 2015).

While snuffbox is known to occur in the lower St. Croix River, it was not observed in the 2021 mussel survey (Kelner 2021). Figure 5.6-3 shows counties in Wisconsin with documented occurrences of snuffbox.

Figure E-5.6-3. Wisconsin Counties with Documented Occurrences of Snuffbox



Source: Wisconsin DNR 2020d

Spectaclecase – Spectaclecase mussel is found in large rivers in the western part of the state. It lives beneath large boulders, rock ledges or in rock crevices. The host organism is unknown. The species inhabits large rivers with swiftly flowing water, most often found among boulders in patches of sand, cobble, or gravel where the current is reduced. (Wisconsin DNR 2020e). In Pierce County, the spectaclecase is known to occur in the St. Croix River; it is not known to occur in the Kinnickinnic River (Wisconsin DNR 2018). This species is unlikely to be present in the Project Boundary due to lack of appropriate habitat (Wisconsin DNR 2018). This species is included in the Wisconsin Wildlife Action Plan as a SGCN (Wisconsin DNR 2015).

While spectaclecase is known to occur in the lower St. Croix River, it was not observed in the 2021 mussel survey (Kelner 2021). Figure E-5.6-4 shows counties in Wisconsin with documented occurrences of spectaclecase.

Figure E-5.6-4. Wisconsin Counties with Documented Occurrences of Spectaclecase

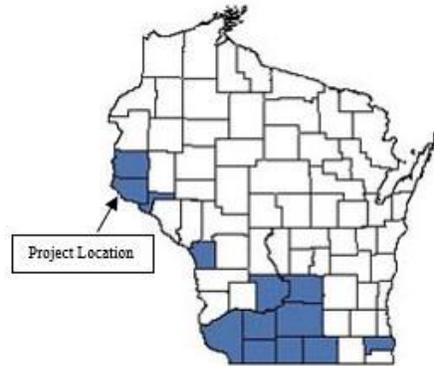


Source: Wisconsin DNR 2020e

Prairie bush-clover – Habitat for prairie bush-clover includes tallgrass prairie with mesic, moderately damp to dry prairie soils (TRC 2020). It differs from round-headed bush-clover (*Lespedeza capitata*) by having open, branching flower heads and widely spaced leaves compared to tight flower heads and larger, wider leaves. Blooming occurs late July through late August; fruiting occurs early August through early September. The optimal identification period for this species is throughout August. (Wisconsin DNR 2020f).

During the rare species field assessment (TRC 2020), suitable habitat for prairie bush-clover was evaluated and meander surveys were conducted to document the presence/absence of this species. The Project Boundary was examined for prairie bush-clover. No individuals of prairie bush-clover nor suitable habitat for this species were found in the Project Boundary. Figure E-5.6-5 shows counties in Wisconsin with documented occurrences of Prairie bush-clover.

Figure E-5.6-5. Wisconsin Counties with Documented Occurrences of Prairie Bush-clover



Source: Wisconsin DNR 2020f

Bald Eagle – Wisconsin DNR postponed the annual bald eagle count in 2020 because of the COVID-19 pandemic. As of 2019 there were twenty (21) occupied bald eagle nests in Pierce County and fifteen (10) occupied bald eagle nests in Saint Croix County, the county immediately north of the Project Boundary (Wisconsin DNR 2019). Bald eagles are known to fly through the Project Boundary and nest in the surrounding area outside the Project Boundary. The USFWS IPaC report indicated that while the bald eagle is no longer protected under the Endangered Species Act, bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.S. 668 *et seq*) and Migratory Bird Treaty Act (16 U.S.C. 703 *et seq*). If a nest is within an area of, or near future proposed work at the Project, certain restrictions will be imposed, in consultation with the appropriate agencies, including Wisconsin DNR.

5.6.2 Environmental Analysis

In SD2, FERC lists the potential effects of continued Project operation and maintenance on the following federally listed threatened and endangered species: (1) northern long-eared bat; (2) prairie bush-clover; and (3) the Higgins eye, snuffbox, and spectaclegoose as potential resource issues to be evaluated. A Wetland, Riparian and Terrestrial Resources Survey was conducted to search for terrestrial RTE species and associated habitats. No wildlife or botanical RTE species or habitats have been documented to occur within the Project Boundary. Although RTE species have the potential to occur in the vicinity of the Project, there are no RTE species which are known to inhabit the Project Boundary due to the lack of species-specific habitat within the Project Boundary. State listed plant species may be present in the vicinity of the Project, but the site-specific survey did not identify any of these species in the Project Boundary. While northern long-eared bats and eagles may fly through the Project Boundary, no known bat roosting sites or eagle nests are located in the Project Boundary. These species may feed in or near the Project above Lake George or in forested habitats, but they are not expected to be adversely affected as a result of Project operation.

As described in further detail in Exhibit E Section 5.3, a mussel survey was conducted in the Lower Kinnickinnic River and a portion of the St. Croix River (Kelner 2021). The continued operation of the Project will not negatively impact freshwater mussels. The 2020 survey determined that the Lower Kinnickinnic River does not provide suitable habitat for freshwater mussels due to the influence of cold groundwater maintaining unsuitable water temperatures and the prevalence of easily mobilized loose instream substrate, sand. The sand substrate and influence of cold ground water temperatures do not provide suitable conditions for freshwater mussels, a habitat feature of the Lower Kinnickinnic River that is not influenced by the continued operations of the Project.

The Licensee is proposing no changes in operation. As a result and given that no RTE species have been documented within the Project Boundary, continued operation of the Project is not expected to adversely affect RTE species.

5.6.3 Proposed Environmental Measures

There are no existing PME measures in-place relative to RTE resources. RFMU will consult with the appropriate agencies prior to initiating new activities that may disturb RTE species or habitat as needed in the future. This could include following recommended actions such as assuming species presence and fencing off areas of potential rare plant habitat, using native trees, shrubs, and flowering plant species in landscaping, and avoiding human activity near active nests of protected species. No new disturbance activities are currently planned.

5.6.4 Cumulative Effects

No potential cumulative effects to RTE resources have been identified as a potential concern at the Project. The Licensee's proposal to continue to operate and maintain the Project under the existing operating regime is not expected to result in either geographic or temporal cumulative impacts to RTE species or species of concern.

5.6.5 Unavoidable Adverse Impacts

Continued operation of the River Falls Project, as proposed, will have no significant unavoidable adverse impacts on RTE species.

5.6.6 References

- Kelner, D. 2021. Mussel Survey for the River Falls Hydroelectric Project (FERC No. 10489), Lower Kinnickinnic and St. Croix Rivers, Pierce County Wisconsin and Washington County Minnesota. U.S. Army Corps of Engineers, St. Paul District. January 2021. Available in the Updated Study Report:
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- Wisconsin Department of Natural Resources (Wisconsin DNR). 2020b. Northern Long-eared Bat (*Myotis septentrionalis*). Available online:
<https://dnr.wi.gov/topic/EndangeredResources/Animals.asp?mode=detail&SpecCode=AMACC01150>

Wisconsin Department of Natural Resources (Wisconsin DNR). 2020c. Higgins Eye (*Lampsilis higginsii*). Available online:
<https://dnr.wi.gov/topic/EndangeredResources/Animals.asp?mode=detail&SpecCode=IMBIV21100>

Wisconsin Department of Natural Resources (Wisconsin DNR). 2020d. Snuffbox (*Epioblasma triquetra*). Available online:
<https://dnr.wi.gov/topic/EndangeredResources/Animals.asp?mode=detail&SpecCode=IMBIV16190>

Wisconsin Department of Natural Resources (Wisconsin DNR). 2020e. Spectaclecase (*Cumberlandia monodonta*). Available online:
<https://dnr.wi.gov/topic/EndangeredResources/Animals.asp?mode=detail&SpecCode=IMBIV08010>

Wisconsin Department of Natural Resources (Wisconsin DNR). 2020f. Prairie Bush Clover (*Lespedeza leptostachya*). Available online:
<https://dnr.wi.gov/topic/EndangeredResources/Plants.asp?mode=detail&SpecCode=PDFAB27090>

5.7 Recreation and Land Use

5.7.1 Affected Environment

The Project is located on the Kinnickinnic River in the City of River Falls, in Pierce County, Wisconsin. The Licensee conducted a Recreation Facility Inventory in 2019 and a Recreation Use Assessment in 2020. The results of these studies are reported in the ISR and USR, respectively, and summarized herein.

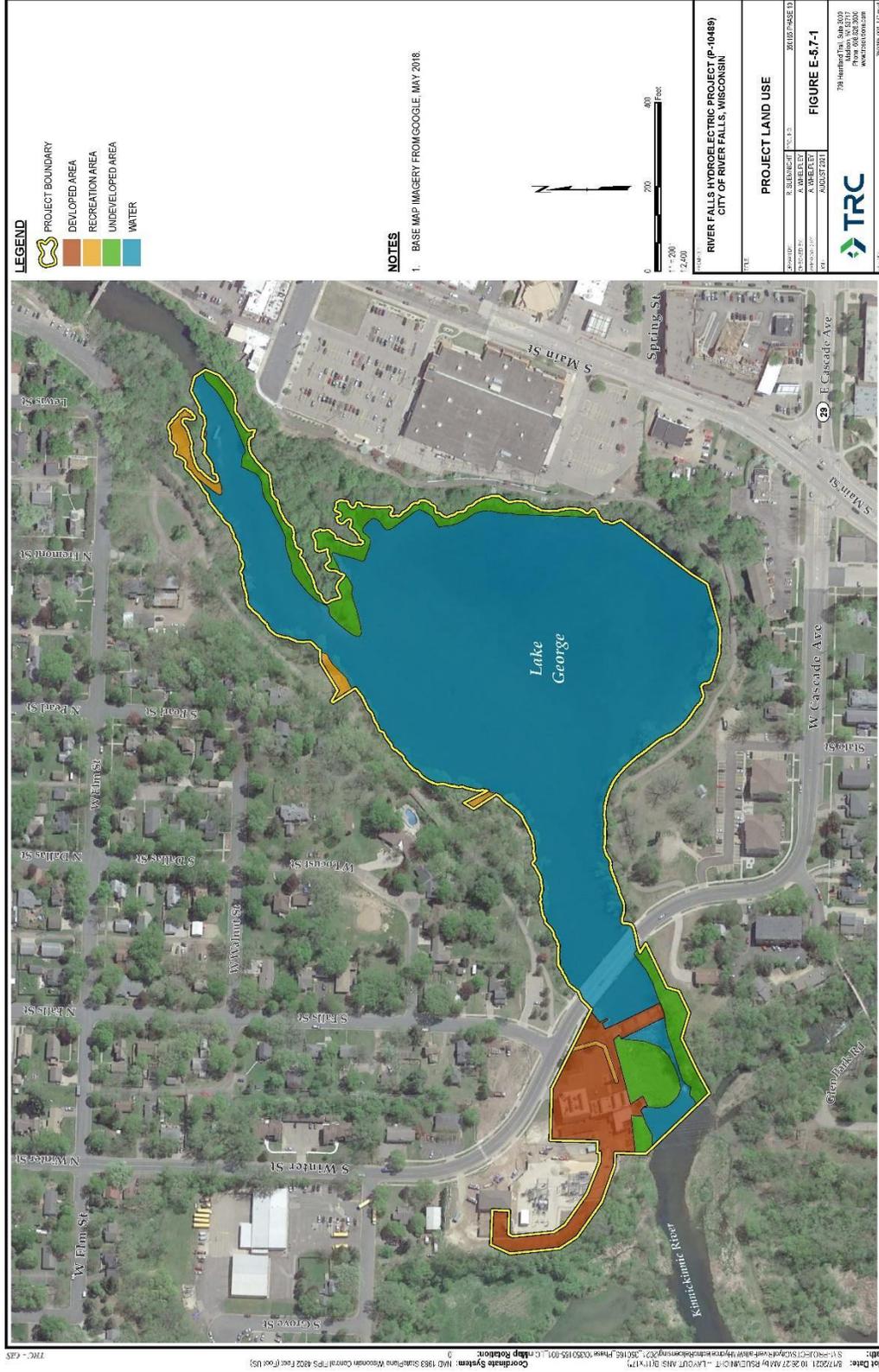
5.7.1.1 Project Area Land Use

The Project Boundary includes 19.0 acres, of which approximately 15.3 acres are open water. The majority of the land within the Project Boundary is undeveloped. Remaining lands are either developed lands, not open to the public, or lands utilized for recreation. Table E-5.7-1 shows a breakdown of land use within the Project Boundary, while Figure E-5.7-1 depicts the lands within the Project Boundary.

Table E-5.7-1. Land Use within the Project Boundary

Land Use Category	Description	Acres	Percent of Project Lands
Developed	Developed land not open to the public	1.5	7.9
Recreation	Lands that are developed for recreational use, and open to the public offering access to Project lands	0.3	1.6
Undeveloped	Undeveloped lands	1.9	10.0
Water	Open water	15.3	80.5
Total		19.0	100

Figure E-5.7-1. Junction Falls Development Land Use



5.7.1.2 Regional Recreation Opportunities

The Project is located in a region that offers abundant and varied recreation opportunities. Existing recreation sites and facilities within the City of River Falls are tabulated in Table E-5.7-2, shown in Figure E-5.7-2. All facilities that are within 0.75 miles of the Project dam are described in additional detail below.

The Kinnickinnic River itself is a popular regional recreational resource. Due to its exceptional water quality and self-sustaining, bountiful trout fishery, the Kinnickinnic River is classified as an Outstanding or Exceptional Resource Water and a Class I Trout Stream (KRLT 2021). Area residents and visitors utilize the river for fishing, kayaking, hiking, birding, hunting and photography (KRLT 2021).

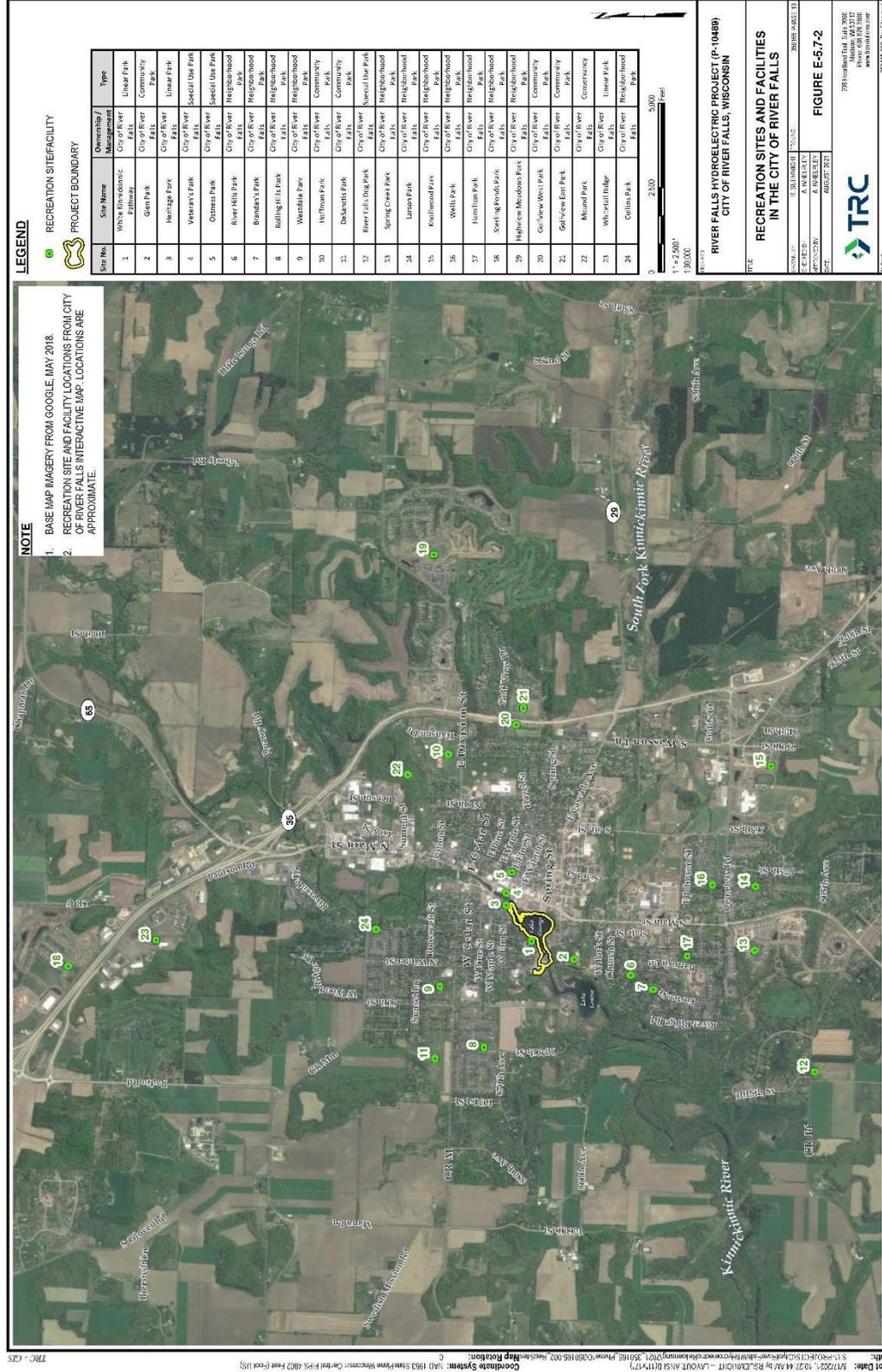
Table E-5.7-2. Existing City-Owned Recreation Sites and Facilities

Site No.	Site Name	Ownership / Management	Type¹²
1	White Kinnickinnic Pathway	City of River Falls	Linear Park
2	Glen Park	City of River Falls	Community Park
3	Heritage Park	City of River Falls	Linear Park
4	Veteran’s Park	City of River Falls	Special Use Park
5	Ostness Park	City of River Falls	Special Use Park
6	River Hills Park	City of River Falls	Neighborhood Park
7	Brandan’s Park	City of River Falls	Neighborhood Park
8	Rolling Hills Park	City of River Falls	Neighborhood Park
9	Westdale Park	City of River Falls	Neighborhood Park
10	Hoffman Park	City of River Falls	Community Park
11	DeSanctis Park	City of River Falls	Community Park
12	River Falls Dog Park	City of River Falls	Special Use Park
13	Spring Creek Park	City of River Falls	Neighborhood Park

¹² The Community Park classification is used to describe the largest and most elaborate spaces that offer the widest array of activities to serve the entire population. Neighborhood Parks are designed to serve the nearby neighborhood with recreational opportunities located within walking distance. Special Use Parks are oriented toward a single use that is typically recreational, cultural, or historic by its design and use. Linear Parks act as a connection between centers of activity for pedestrians or as a scenic path along a stream or other feature. Parks in this section are owned and maintained by the City of River Falls and are accessible by the general public. Conservancy areas describe properties that serve the primary function of natural resource protection (City of River Falls 2009).

Site No.	Site Name	Ownership / Management	Type¹²
14	Larson Park	City of River Falls	Neighborhood Park
15	Knollwood Park	City of River Falls	Neighborhood Park
16	Wells Park	City of River Falls	Neighborhood Park
17	Hamilton Park	City of River Falls	Neighborhood Park
18	Sterling Ponds Park	City of River Falls	Neighborhood Park
19	Highview Meadows Park	City of River Falls	Neighborhood Park
20	Golfview West Park	City of River Falls	Community Park
21	Golfview East Park	City of River Falls	Community Park
22	Mound Park	City of River Falls	Conservancy
23	Whitetail Ridge	City of River Falls	Linear Park
24	Collins Park	City of River Falls	Neighborhood Park

Figure E-5.7-2. River Falls Recreation Sites and Facilities



White Kinnickinnic Pathway Park is an approximately 5.5-acre linear park that runs along the west bank of Lake George and the Kinnickinnic River from the Winter Street Bridge to Maple Street. Street pedestrian access and vehicle parking can be found at either Winter or Maple Street. To the northern end of the Park near Maple Street is Heritage Park and across the Kinnickinnic River to the east is Veterans' Park. Some of the main attractions of the Park include a lookout deck onto the Junction Falls impoundment (Lake George), picnic tables, paved trails, lighting, and natural landscaping of mostly trees and some grassy areas. The north end of the Park is connected to Heritage Park, Veterans Park, the Riverwalk and the downtown district, which make this park complex an asset to the entire community. (City of River Falls 2009)

Glen Park is a local community park located at 355 Park Street in the City of River Falls. The park is approximately 40 acres and offers amenities. Established in 1898, Glen Park is the City's oldest park. Some highlights of the Park include the trails connecting to the White Kinnickinnic Pathway to the north, River Hills Park to the south, and the Kinnickinnic River, a public swimming pool, many large trees, grass and several types of recreational activities. Pedestrian access can be found at the Swinging (Suspension) Bridge to the northeast from Cascade Avenue, along Glen Park Road and Park Street. There are several off-street parking lots. (City of River Falls 2009)

Heritage Park is a passive special use park located just west of the downtown district and Veterans Park. At the entrance of the Park is a bell that was used in the old firehouse. Pedestrian access to the park can be found from Veterans' Park by way of the pedestrian bridge, White Kinnickinnic Pathway Park, and off of Maple Street. A parking lot is available on Maple Street with a capacity of approximately 20 cars. Heritage Park is approximately 1.5 acres. Amenities include: biking/walking trails, bike rack, benches, off-street parking, and garbage cans. (City of River Falls 2009)

Veterans' Park is a small park on the east side of the Kinnickinnic River. It is adjacent to the Riverwalk pedestrian bridge that crosses the Kinnickinnic River.

Ostness Park is a special use park located in a corner of Second and Elm Street. The park is approximately 0.12 acres. It displays three flags and features well-kept flower gardens and several tall trees. (City of River Falls 2021)

River Hills Park is frequently used for passive activities such as fishing, hiking or biking. The Kinnickinnic River flows through the park accompanied by walking/biking paths that are lined with trees. It connects with Glen and Brandan's park to the north with accessibility by foot from both places. The park is approximately 65.88 acres. (City of River Falls 2021)

Brandan's Park is an active/passive neighborhood park in the River Hills Subdivision. The landscaped park is southwest of the downtown district and connects with River Hills Park to the west. (City of River Falls 2021)

Rolling Hills Park is an active mixed park located in the Rolling Hills Subdivision west of the downtown district. The park is 4.66 acres and features paved trails through grass fields. Amenities include basketball courts, a soccer field, a playground and picnic tables. (City of River Falls 2021)

Westdale Park is a neighborhood park located on North Grove Street. This small neighborhood park features an open area that can be used for recreational purposes. There are also two picnic tables under the shade of a large tree for those who wish to picnic. (City of River Falls 2021)

5.7.1.3 Wild and Scenic Rivers Act

The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. Rivers are classified as wild, scenic, or recreational.

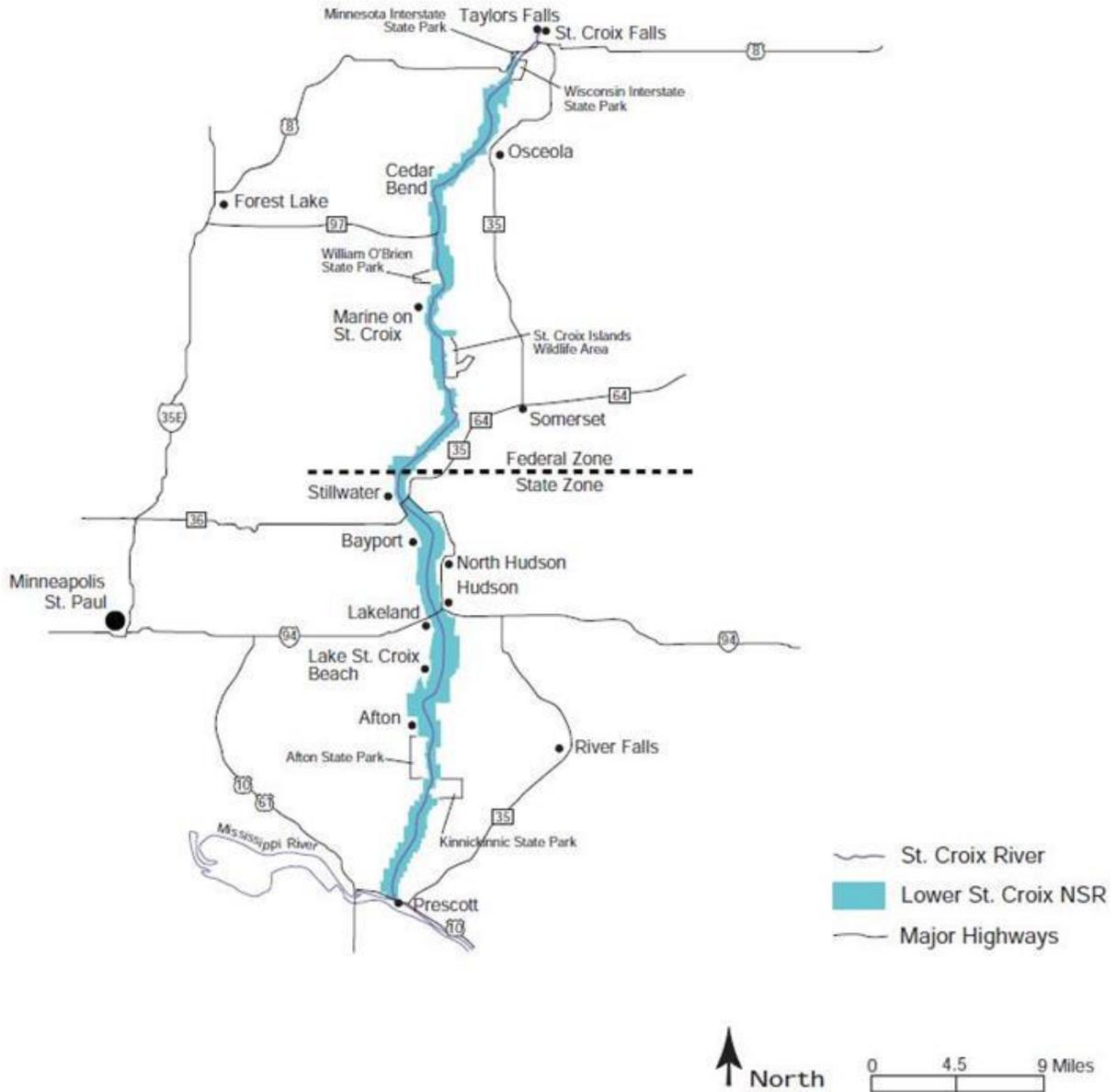
The Kinnickinnic River is a tributary to the St. Croix River. The St. Croix River is included in the National Wild and Scenic River System (Wild & Scenic Rivers 2018, NPS 2018). The St. Croix and the Namekagon Rivers were designated as the St. Croix National Scenic Riverway by Congress in 1968 and 1972 (Wild and Scenic Rivers Act of 1968, Wild and Scenic Rivers Act of 1972). The riverway is administered by the National Park Service (NPS) from the headwaters of the St. Croix and Namekagon Rivers, to Stillwater, Minnesota (federal zone), below which it is administered by the Minnesota Department of Natural Resources (Minnesota DNR) and Wisconsin DNR (state zone) (Wisconsin DNR 2002).

The section of the St. Croix River into which the Kinnickinnic River flows is known as the Lower St. Croix National Scenic Riverway. The Lower St. Croix National Scenic Riverway includes the lower 52 miles of the St. Croix River along the Minnesota/Wisconsin border (from Taylors Falls to Prescott), and is shown in Figure E-5.7-3. The upper 10-mile stretch of the Lower St. Croix is classified as scenic, while the lower 42 miles are classified as "recreational" (Minnesota DNR 2018). The Lower St. Croix National Scenic Riverway is managed jointly by the NPS, Minnesota DNR, and the Wisconsin DNR as outlined in the Lower St. Croix National Scenic Riverway Cooperative Management Plan (2002) (Wild & Scenic Rivers 2018). As described in the plan (NPS, Minnesota DNR & Wisconsin DNR 2002), the enabling legislation for the riverway specifies that the NPS has primary management responsibility north of Stillwater and that Minnesota and Wisconsin have primary management responsibility south of Stillwater. The plan elaborates that in practice, there is significant overlap in jurisdictions; the states have the same on-water law enforcement authority and the same oversight over private land use both north and south of Stillwater (NPS, Minnesota DNR & Wisconsin DNR 2002). The plan further states that despite the fact that jurisdictions sometimes overlap and sometimes do not, the three managing agencies strive to manage the entire riverway holistically and that the managing agencies coordinate

management and facilitate an integrated and consistent management approach (NPS, Minnesota DNR & Wisconsin DNR 2002).

The Project is not located on a water included in the National Wild and Scenic River System. Due to the proximity of the Project to the St. Croix National Scenic Riverway, the Licensee is consulting with the NPS regarding potential effects on the St. Croix River.

Figure E-5.7-3. Lower St. Croix National Scenic Riverway



Source: Final Cooperative Management Plan / Environmental Impact Statement: Lower St. Croix National Scenic Riverway 2001

5.7.1.4 Project Recreation Resources

There are three public recreation sites and facilities associated with the Project: 1) White Kinnickinnic Pathway, 2) Lake George Fishing Area, and 3) Lake George Boat Launch. Detailed figures depicting amenities at each of the formal recreation sites are included in the Recreation Management Plan (RMP) (Appendix E-4).

In 2019, the Licensee conducted a Recreation Facility Inventory of the recreation sites in the immediate vicinity of the Project. This study examined the use and condition of the existing recreation sites and facilities. The results of this study are reported in the ISR (TRC 2020).

The Recreation Facility Inventory included the public recreation sites in the general vicinity of the Project: 1) White Kinnickinnic Pathway, 2) Lake George Fishing Area, and 3) Lake George Boat Launch. A list of Project recreation sites and facilities is included in Table E-5.7-3 and shown on Figure E-5.7-4.

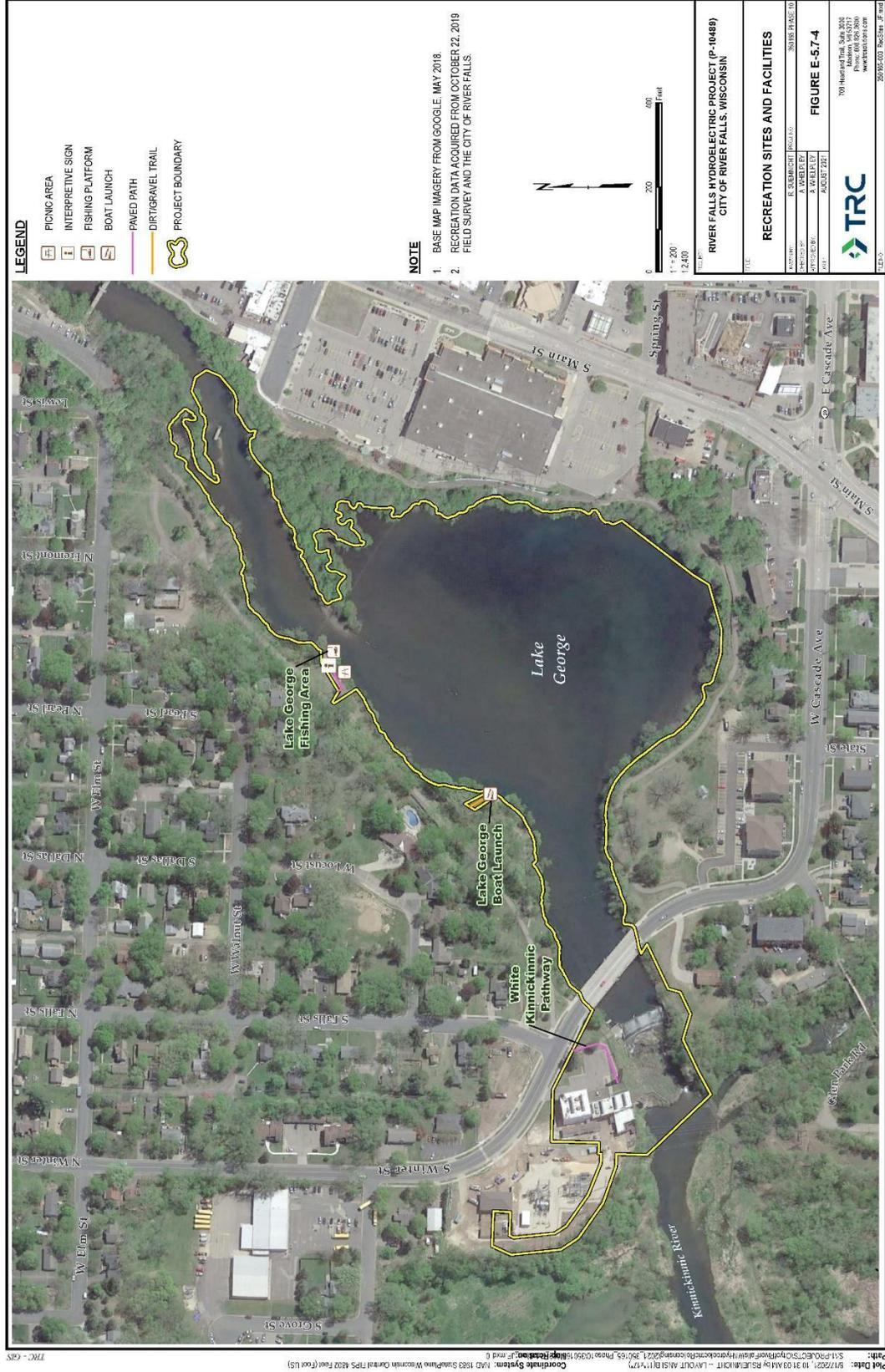
The Licensee provides free public access to Project lands and waters for recreational purposes, within safety limitations. Recreation that occurs within the Project Boundary primarily includes walking on trails, canoeing/kayaking, picnicking, and fishing. The City provides a variety of public recreation facilities and amenities within the Project Boundary and City limits. An ADA compliant restroom was added to Glen Park in 2020. This restroom facility is approximately 0.25 miles from Lake George and within walking distance for those recreating at Lake George. Portable toilets are also located in the park next to Lake George spring through fall. Recreation in the Project Boundary is discussed below.

Table E-5.7-3. Recreation Sites and Facilities within the Junction Falls Project Boundary

Recreation Site / Facility Name	Facility Type / Associated Amenity	Latitude	Longitude	Assessed Condition	In the Project Boundary?	Responsible Entity	Hours / Seasons of Operation	Description / Notes
White Kinnickinnic Pathway	Trail	44.857940*	-92.629885*	Good	Yes	City of River Falls	5am-11pm Year round	Paved trail within Heritage Park. Approximately 169 feet are located within the Project Boundary.
Lake George Fishing Area	Fishing platform	44.85735	-92.630261	Good	Yes	City of River Falls	5am-11pm Year round	Fishing platform with single wooden bench.
	Interpretive sign	44.857376	-92.630302	Good	Yes	City of River Falls		Interpretive sign about the belted kingfisher.
	Picnic table	44.857285	-92.630425	Good	Yes	City of River Falls		Picnic table.
Lake George Boat Launch	Boat launch	44.856292	-92.631471	Good	Yes	City of River Falls	5am-11pm Year round	Carry-in boat launch.

* This trail is a linear feature that extends outside of the Project Boundary. The coordinates provided indicate a reference point. The approximate Project Boundary (Study Area) used in the Recreation Facility Inventory (TRC 2020) was slightly larger than the proposed Project Boundary outlined in Exhibit G. Trail length has been revised to reflect the length in the proposed Project Boundary.

Figure E-5.7-4. Recreation Sites and Facilities

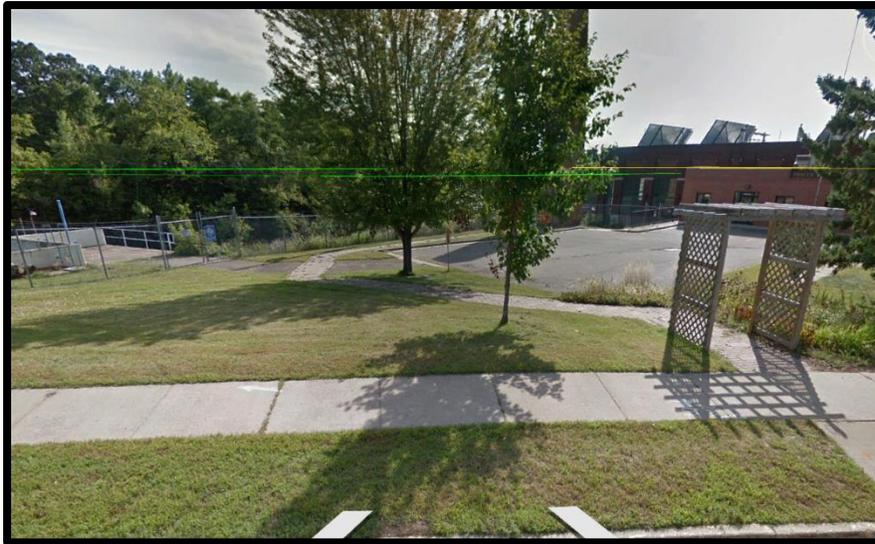


5.7.1.5 Public Recreation Sites

White Kinnickinnic Pathway

The White Kinnickinnic Pathway is a paved trail in Heritage Park that runs along the northwestern shore of Lake George and the Kinnickinnic River, as shown in Photo E-5.7-4. The White Kinnickinnic Pathway is partially inside of the Project Boundary and extends beyond the Project Boundary. Approximately 169 feet of the White Kinnickinnic Pathway is located within the Project Boundary. The White Kinnickinnic Pathway is owned and maintained by the City of River Falls and is open from 5 am – 11 pm. The White Kinnickinnic Pathway is approximately 4 feet in width. Photos E-5.7-2 shows the segment of the White Kinnickinnic Pathway that is located within the Project Boundary. The trail provides recreation opportunities such as biking, walking, running, and nature viewing. The White Kinnickinnic Pathway is in good condition.

Photo E-5.7-1: White Kinnickinnic Pathway Along the Southwestern Shore of Lake George, Facing South; photo taken 08/2021¹³



¹³ Image obtained from GoogleEarth street view 08/17/2021. A city sidewalk is in the foreground, while the trail is in the background of this image.

Lake George Fishing Area

The Lake George Fishing Area is located on the northwestern shore of Lake George and has a fishing platform, an interpretive sign about the belted kingfisher, and a picnic table. The fishing platform is approximately ten feet long and is accessible for individuals with disabilities via a paved path off from the White Kinnickinnic Pathway (approximately 49 feet long). The Lake George Fishing Area is owned and maintained by the City of River Falls and is open from 5 am – 11 pm. There is some evidence of compaction at the Lake George Fishing Area. The fishing platform is constructed of wood composite with a railing surrounding the platform. There is a bench in the middle of the platform. The fishing platform is shown in Photo E-5.7-6. Photo E-5.7-7 shows the approximately four-foot-wide path from the White Kinnickinnic Pathway to the fishing platform. The fishing platform provides an opportunity for recreational fishing and also provides views of Lake George. The facilities at the Lake George Fishing Area are in good condition.

Photo E-5.7-2: Fishing Platform at Lake George Fishing Area, Facing Northeast; photo taken 10/2019



Photo E-5.7-3: Path to Fishing Platform at Lake George Fishing Area from the White Kinnickinnic Pathway, Facing Northeast; photo taken 08/2021



Lake George Boat Launch

The Lake George Boat Launch is located on the northwestern shore of Lake George and provides water access to the lake. It is a carry-in boat launch for canoes, kayaks, and other small watercraft. A photo of the Lake George Boat Launch is provided as Photo E-5.7-7. The Lake George Boat Launch is accessible via an approximately 63 foot long and four-foot-wide dirt path off from the White Kinnickinnic Pathway along Lake George. The Lake George Boat Launch is owned and maintained by the City of River Falls and is open for public use from 5 am – 11 pm. There is some compaction and ground disturbance at the site. Overall, the Lake George Boat Launch is in good condition.

Photo E-5.7-4: Lake George Boat Launch, Facing East; photo taken 10/2019



5.7.1.6 Project Recreation Use

The Licensee conducted a Recreation Use Assessment between June 27, 2020 and September 7, 2020 to determine the types and amount of use occurring at Project recreation areas within the Study Area¹⁴. The results of this study are reported in the USR (GSRC 2021). Total summer recreation use in 2020 was estimated to be 9,065 recreation days. A recreation day is defined by FERC as “each visit by a person to a development for recreational purposes during any portion of a 24-hour period.” Table E-5.7-4 provides the observed recreation activities within the White Kinnickinnic Pathway survey area. The most popular activities that recreationists participated in included walking/running and biking. This was followed by looking at dam/flooding, dog walking, and canoeing/kayaking. Other activities observed occurring included fishing from shore, skateboarding/rollerblading, picnicking, and berry-picking. The recreation use by type of day (i.e., weekday, weekend, holiday) for the White Kinnickinnic Pathway is shown in Table E-5.7-5. This area is meeting use capacity as the parking area was observed to be completely full only once over the course of the study.

¹⁴ The Study Area was based on an approximate Project Boundary used for relicensing studies. The Study Area is slightly larger than the proposed Project Boundary depicted in Exhibit G.

Table E-5.7-4. Observed Recreation Activities at the White Kinnickinnic Pathway Survey Area

Recreation Activity	Users Observed	Recreation Users per Hour
Walking/Running	288	9.60
Biking	132	4.40
Looking at Dam/Flooding	92	3.07
Dog Walking	80	2.67
Canoeing/Kayaking	25	0.83
Skateboarding/Rollerblading	9	0.30
Birding/Nature Observing	8	0.27
Fishing from Shore	5	0.17
Picnicking	4	0.13
Berry-picking	3	0.10
Sightseeing	1	0.03
Photography	1	0.03

Table E-5.7-5. Recreation Users by Type of Day (White Kinnickinnic Pathway)

Type of Day¹⁵	Total Recreation Users	Recreation Users per Hour
Weekday	342	26.3
Weekend	242	18.6
Holiday	64	16.0

Recreationist’s Opinions of Project Recreational Opportunities

A total of 36 participants responded to the user survey within the White Kinnickinnic Pathway survey area. Select demographics for White Kinnickinnic Pathway are shown in Table E-5.7-6.

¹⁵ There was a total of seven weekdays, six weekend days, and two holidays surveyed during the study.

Table E-5.7-6. Demographics of White Kinnickinnic Pathway Respondents

Participated in recreation survey before?		Gender		How many in group?	
Yes	13.9%	Male	27.8%	1-2	69.4%
No	86.1%	Female	72.2%	3+	30.6%
Vehicle(s)?		Resident of River Falls?		Ever visited Project Area before?	
Yes	27.8%	Yes	77.8%	Yes	97.2%
No	72.2%	No	22.2%	No	2.8%

The results of the activity chart by season for the White Kinnickinnic Pathway survey area are shown in Table E-5.7-7. Based on survey results, White Kinnickinnic Pathway is most commonly used for walking, dog walking, and bicycle riding.

Table E-5.7-7. User Survey Activities by Season (White Kinnickinnic Pathway)

Activity	This Trip	Spring	Summer	Fall	Winter
Biking	1	21	26	20	6
Birding	10	15	22	24	6
Kayaking	3	6	10	6	-
Dog Walking	10	29	32	28	22
Fishing from Shore	1	4	5	4	1
Fly Fishing	-	2	2	2	1
Ice Fishing	-	-	-	-	-
Paddle Boarding/Tubing	-	-	-	-	-
Photography	2	13	14	12	9
Picnicking	1	4	12	2	-
Walking	19	46	59	43	23
Sightseeing	4	15	18	15	8
Cross-country Skiing	-	-	-	-	1
Sunbathing	-	-	-	-	-

Activity	This Trip	Spring	Summer	Fall	Winter
Swimming	-	-	4	-	-
Flying a Drone	-	1	1	1	-
Fishing from Boat	-	1	2	1	1
Berry-picking	1	-	1	-	-
Snowshoeing	-	-	-	-	2
Meditation	-	1	1	1	-
Public Events	-	1	1	-	-
Skateboarding	-	1	1	1	-
Total for All Activities	52	160	211	160	80

During the recreation user surveys, recreationists were asked their opinions regarding a number of aspects related to the available Project recreation opportunities, along with some basic information questions. As shown in Table E-5.7-8 the overall quality of the recreation sites/facilities and amenities was rated highly. A below average score for the condition of Toilets/Restrooms was received for the White Kinnickinnic Pathway survey area (2.8 out of 5).¹⁶ Ratings for all other questions regarding amenities were favorable (>4 out of 5). People consistently noted the ease of parking either at the small Winter Street Parking Lot or the larger Heritage Park parking lot in order to access the White Kinnickinnic Pathway.

Table E-5.7-8. User Ratings for Amenities and Facilities

Site/Facility/Amenity	Average Rating
Overall Quality	4.5/5
Impoundment Access	4.4/5
River Access	4.3/5
Toilets/Restrooms	2.8/5
Variety of Amenities	4.2/5
Facility Condition	4.4/5
Parking	4.5/5

¹⁶ An ADA compliant restroom was added to Glen Park in 2020 after the recreation survey was completed. This restroom facility is approximately 0.25 miles from Lake George and within walking distance for those recreating at Lake George. Portable toilets, while absent in 2020 due to COVID 19, are also located in the park next to Lake George spring through fall.

Recreationists rated the White Kinnickinnic Pathway survey area as an “Excellent” public recreation opportunity (4.5 out of 5). The survey area was rated for busyness at the time of the visit from a 1 (“not crowded”) to a 5 (“extremely crowded”) and received an average rating of 2.2 (somewhat to minimally crowded). All recreationists (100%) replied that the White Kinnickinnic Pathway survey area serves their interests regarding recreation and that they would return to the area again for recreation purposes. 47% of recreationists at the White Kinnickinnic Pathway stated they were aware of at least one scenic view of value to the Project area, with common answers including the Swinging Bridge and the Foster Cemetery¹⁷.

5.7.2 Environmental Analysis

In SD2, FERC lists the effects of continued Project operation and maintenance on public access and recreational opportunities at the Project as potential resource issues to be evaluated. FERC also notes that the adequacy of existing and proposed public access and recreational facilities at the Project to meet current and future recreational demand may be a potential resource issue. The Licensee conducted a Recreation Facility Inventory as well as a Recreation Use Assessment to address the potential resource issues identified by FERC. The continued operation of the Project, as proposed, supports continued provision of the three existing Project recreation sites owned by the Licensee. These sites provide the public with a variety of recreation opportunities including walking on trails, canoeing/kayaking, picnicking, fishing, and more.

The Licensee’s study of recreational use within and adjacent to the Project indicate that current use of the Project recreation sites occurs within the existing capacity and the sites are anticipated to meet projected recreation use for the foreseeable future. The majority of recreation users gave “Excellent” or “Fair-Excellent” rating for facility conditions, variety of amenities, and the overall quality of the sites and facilities. Continued operation of the Project and the associated recreation sites will ensure that the public continues to benefit from the recreation opportunities that are provided.

5.7.3 Proposed Environmental Measures

The Licensee is proposing to continue to operate the Project in run-of-river mode and maintain the recreation sites and facilities associated with the Project. No impacts to existing recreation resources or uses are anticipated.

The Licensee proposes to continue to provide the three public recreation sites, along with the associated facilities and amenities. These sites are the 1) White Kinnickinnic Pathway, 2) Lake George Fishing Area, and 3) Lake George Boat Launch. The Licensee will implement the RMP included in Appendix E-4. The Licensee will monitor the three recreation sites approximately

¹⁷ Both the Swinging Bridge and the Foster Cemetery are located outside of the Project Boundary and also are not visible from the Project Boundary.

every five years over the term of the new Project License. Monitoring will occur concurrently with the City of River Falls Comprehensive Plan review. No negative effects to the existing recreation resources would result from the proposed licensing of the Project.

5.7.4 Cumulative Effects

No potential cumulative effects to recreational resources were identified as a potential concern at the Project. The Licensee's proposal to continue to operate and maintain the Project is not expected to result in cumulative impacts to recreational resources.

5.7.5 Unavoidable Adverse Effects

Continued operation of the Project as proposed will not result in any unavoidable significant adverse impacts to recreation resources.

5.7.6 References

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5.8 Cultural Resources

The Licensee conducted two studies to identify cultural resources eligible for listing on the National Register of Historic Places (NRHP) in accordance with Section 106 of the National Historic Preservation Act (NHPA). Studies were conducted for archaeological resources and architectural resources. The Licensee submitted a request for review of the proposed Area of Potential Effect (APE) on October 2, 2019. The Wisconsin SHPO concurred with the Project APE in a letter dated October 10, 2019. The 2019 Study Area APE was based on an approximate Project Boundary used for relicensing studies.¹⁸ The Licensee is proposing to update the APE based on the Project Boundary depicted in Exhibit G in this FLA. The Proposed APE is depicted in Figure E-5.8-1.

5.8.1 Affected Environment

Prior to the early settlement of River Falls and the surrounding region, two Native American tribes, the Chippewa and the Sioux, occupied the area. In 1837, the Chippewa ceded to the United States all of the land east of the Mississippi River extending north to the source of the Mississippi River. Despite the opening of the territory, settlement was rather slow until the mid-nineteenth century (City of River Falls 2019).

The founding of the City of River Falls is credited to Joel Foster in 1848, which soon brought more individuals to the area surrounding the Kinnickinnic River (City of River Falls 2021, RFMU 2021). There were various names for the city such as Kinnickinnic and Greenwood, but in 1858 River Falls became the official name. Milling and lumber were important industries as Joel Foster himself opened up one of the first sawmills in the area (RFMU 2021).

Milling became the principal industry and many Yankee millers came to the area to capitalize on the river power. At one time there were five mills operating on the Kinnickinnic River. Greenwood, Junction, Prairie, Cascade, and further downriver, the Dayton mill. The City of River Falls reached the epitome of its early industrial growth between 1872-1885. The growing milling activity increased the need for shipping in additional wheat and shipping out flour. In 1878 the Hudson-River Falls Rail line was established. In 1877, a severe drought dried the Kinnickinnic River and idled area mills (TRC 2020). Three successive years of drought and an infestation of cinch bugs ended the viability of milling and shipping wheat from River Falls. The mill deteriorated for the next five years and was destroyed by fire in August 1896 (TRC 2020). The railroad continued until 1966 as more shipping went by truck (RFMU 2021).

The destruction of Junction Mill in 1896 created an opportunity for the City of River Falls to build a new hydroelectric plant at the mill site and provide electricity for the growing community. In 1900 the town council voted to build a municipally-owned hydroelectric plant at the former site of

¹⁸ The 2019 Study Area APE was slightly larger than the proposed APE/Project Boundary depicted in Exhibit G.

Junction Mill, which was recently freed from bankruptcy litigation. Construction proceeded quickly as the town awarded construction contracts and site work commenced. The old Junction Mill dam was replaced with a new rock-crib and timber dam with a flume leading to a new, one-story brick powerhouse where the mill formerly stood. The powerhouse contained a single dynamo generating unit that was connected to newly-installed street lamps throughout the City. On November 29, 1900, the dynamo was started, and electric light illuminated River Falls for the first time (TRC 2020). The City acquired ownership of the dam in 1900, creating RFMU. The hydroelectric power electrified lighting, replacing gas lamps throughout the City.

Figure E-5.8-1. Area of Potential Effect



5.8.1.1 Archaeology Review

Literature and archives research were conducted prior to beginning archaeological fieldwork. The Wisconsin Historic Preservation Database (WHPD) does not show any archaeological sites in or adjacent to the Study Area APE.¹⁹ The WHPD has records for two archaeological surveys that were completed in the Study Area APE. Table E-5.8-1 lists the archaeological surveys in and near the Study Area APE. Two archaeological sites are located in the general area surrounding the Project, but outside of the Study Area APE (Table E-5.8-2).

A 1981 archaeological survey (WHS #81-0764) for proposed improvements in Bartosh Park in the City of River Falls found no archaeological sites (Barth 1981). The survey was at the south end of the Powell Falls impoundment (Lake Louise) and on the south side of the river, across the river from one of the two reported archaeological sites in River Falls, Foster Cemetery (47PI589/BPI-0064). The Foster Cemetery is outside of the Study Area APE, located approximately 0.4 miles southwest of the Junction Falls dam. According to the WHPD:

This cemetery was the burial ground for the Trinity Episcopal Church of River Falls. Although no longer active, it is still under the jurisdiction of the Episcopal Diocese. After the Greenwood Cemetery was established in River Falls, some families chose to move some burials to the new cemetery (ASI #16150).

In 1984, an archaeological survey (WHS #83-0805) for a proposed Kinnickinnic River Bridge Project surveyed an approximate 200-foot-long right of way covering about one half acre. No cultural resources were found and no additional archaeological work was recommended (Barth 1984).

In 2015, a Phase I archaeological survey (WHS #15-1089) was conducted for a proposed extension to the City of River Falls Kinnickinnic River Recreation Trail from Heritage Park to West Division Street in the City (Hodgson 2015). The survey area was along the urbanized north bank of the Kinnickinnic River that was noted to contain fill and disturbed soils that had been graded. The archaeologist discovered that the area was extensively reworked and found no artifacts. Nothing of archaeological interest was found and no additional archaeological work was recommended.

The only other documented archaeological site in River Falls is the Greenwood Cemetery (BSC-0038). Greenwood Cemetery is in St. Croix County at the northeast side of River Falls. The Greenwood Cemetery is outside of the Study Area APE, located approximately 0.5 miles northeast of the Junction Falls dam. According to the WHPD, the cemetery is not catalogued.

On July 27-30, 2020 a Phase I Archaeological Survey (TRC 2021) was conducted of the Lake George shoreline and lands within the Study Area APE. Archeologists did not encounter any areas

¹⁹ The 2019 Study Area APE was slightly larger than the proposed APE/Project Boundary depicted in Exhibit G.

of erosion and described the shoreline as well-vegetated and stable. The survey encountered areas of disturbance caused by recreational facilities development, but no archeological sites or artifacts were found. Shovel testing did not encounter any artifacts. No additional archaeological work is recommended until the time stipulated in the future Historic Resources Management Plan. (TRC 2021).

Table E-5.8-1. Archaeological Surveys at and Near the Project

Survey Number	Survey Location	Location
83-0805	Kinnickinnic River Bridge Alternative, City of River Falls	Study Area APE
15-1089	Kinnickinnic River Recreation Trail, Heritage Park to West Division St.	Study Area APE
81-0764	Bartosh Park, City of River Falls	Outside Study Area APE
13-0908	Lake George Shoreline	Study Area APE

Data Source: TRC 2021

Table E-5.8-2. Archaeological Sites in the Area Surrounding the Project

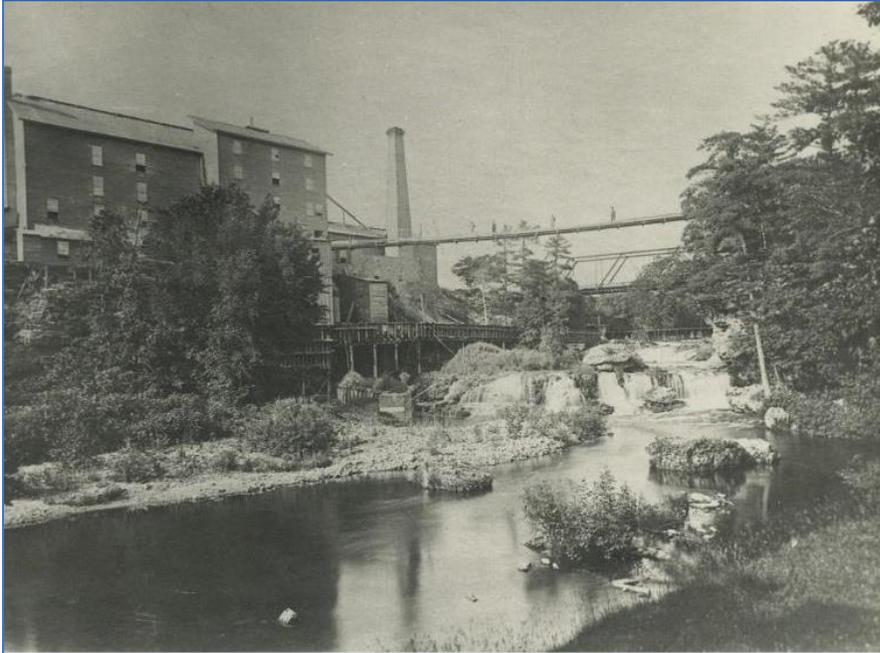
Site Number	Site Description	Site Location	Location
47PI589/BPI-0064	Foster Cemetery	South end of the Powell Falls impoundment (Lake Louise), north side of Kinnickinnic River	0.4 miles southwest of the Project dam
BSC-0038	Greenwood Cemetery	East Division Street, east of N. Eighth St.	0.5 miles northeast of Project dam

Data Source: TRC 2021

5.8.1.2 Architectural Resources

The Junction Mill (AHI #25348) was built in 1867 by Charles B. Cox and Dr. A. D. Andrews, two of the early settlers of the area (City of River Falls 2021). The mill was the largest in the area. In the late 1800s, the City of River Falls was a major producer of flour, exporting over 11 million pounds to St. Louis via the Mississippi River (River Falls Journal 2021). At the end of the 1800s, the mill burned down in an alleged arson fire to collect on the insurance. In 1900, the Municipal Power Plant was built. All that remains of the 1867 mill is the smokestack (River Falls Journal 2021). The smokestack was designated a local historic structure on June 7, 2001 by the City of River Falls (City of River Falls 2019). A 2014 architectural history survey, however, concluded that the building lacked historical integrity and would not meet the NRHP criteria for significance.

Figure E-5.8-2. Junction Mill, circa 1880



Source: City of River Falls

Figure E-5.8-3. Junction Mill, west elevation looking east, circa 1890



Source: University of Wisconsin-River Falls, University Archives and Area Research Center

TRC conducted the Architectural Survey during the week of November 11, 2019. Sufficient data were compiled during background research and survey to make recommendations regarding eligibility for listing in the NRHP for each resource addressed during this study. According to 36 CFR 60.4, cultural resources eligible for listing on the NRHP are defined as buildings, structures, objects, sites, and districts that have “integrity,” and that meet one or more of the criteria outlined below (Government Printing Office [GPO] 2012). For a property to be eligible for listing in the NRHP it must exhibit qualities of physical integrity. This rule also applies to historic districts.

The survey concluded that the Junction Falls Development (AHI 25348) lacks sufficient integrity to express its association with historic events due to multiple modern alterations and lack of historical significance. It was therefore recommended that the Junction Falls Development is not eligible for the listing in the NRHP (TRC 2020).

Table E-5.8-3. NRHP Listed Resources within the Study Area APE

AHI Number	Name	Construction Dates	NHRP Status/Recommendation
25348	Junction Mill	1867; 1900; 1928; 1947; 1962; 1971; 1989; 1998; 2017	Not Eligible

5.8.1.3 Tribal Resources

The Licensee is not aware of any Tribal lands, Tribal cultural sites, or Tribal interests affected by the Project.

On October 13, 2017, the Commission issued a letter initiating Tribal consultation for the relicensing process for the Project. FERC followed up with the addressed Tribes via email and telephone on November 20, 2017 and November 22, 2017 to determine if any would be interested in participating in consultation for the Project.

- On November 15, 2017, Diane Hunter, Tribal Historic Preservation Officer (THPO) for the Miami Tribe of Oklahoma replied via email stating that the Project is outside of the Tribe's area of interest.
- On November 22, 2017, FERC spoke with Ms. Sam Odegard, THPO for the Upper Sioux Community, Minnesota; Ms. Odegard stated that she would contact FERC if she required additional information and would submit a response to the Tribal consultation letter on November 22, 2017.
- On November 22, 2017, FERC spoke with Michael Blackwolf, THPO for the Fort Belknap Indian Community of the Fort Belknap Reservation of Montana. Mr.

Blackwolf stated that the staff person responsible would send a response the following week of November 27th, 2017.

- The following tribes were contacted by FERC for follow-up via email on November 20, 2017 and/or phone on November 22, 2017 and did not respond: Lac du Flambeau Band of Lake Superior Chippewa Indians of the Lac du Flambeau Reservation of Wisconsin, Kickapoo Tribe of Oklahoma, Flandreau Santee Sioux Tribe of South Dakota, Lower Sioux Indian Community in the State of Minnesota, Prairie Island Indian Community in the State of Minnesota, Santee Sioux Nation, Nebraska, Sisseton-Wahpeton Oyate of the Lake Traverse Reservation, South Dakota, Spirit Lake Tribe North Dakota, and the Menominee Indian Tribe of Wisconsin (FERC 2017a).

Although no specific Tribal interest has been identified at the Project, the Native American Tribes listed in Table E-5.8-4 are included in Licensee’s distribution list for the Projects’ relicensing processes. In addition to the Tribes discussed above that FERC initiated consultation with, the Licensee also has included on the distribution list any Tribe that is on the current FERC Mailing List.

Table E-5.8-4. Tribes included in Licensee’s Distribution List

Tribe
Bay Mills Indian Community of Michigan
Flandreau Santee Sioux Tribe of South Dakota
Fond du Lac Reservation Bus. Committee
Forest County Potawatomi Community of Wisconsin
Fort Belknap Indian Community of the Fort Belknap Reservation of Montana
Grand Portage Reservation Bus. Committee
Ho-Chunk Nation of Wisconsin
Kickapoo Tribe of Oklahoma
Lac Courte Oreilles Band of Chippewa Indians
Lac du Flambeau Band of Lake Superior Chippewa Indians of the Lac du Flambeau Reservation of Wisconsin
Lower Sioux Indian Community in the State of Minnesota
Menominee Indian Tribe of Wisconsin
Mole Lake Band of Chippewa Indians
Oneida Tribe of Indians of Wisconsin
Prairie Island Indian Community in the State of Minnesota
Red Cliff Band of Lake Superior Chippewa Indians
Santee Sioux Nation, Nebraska

Tribe
Sisseton-Wahpeton Oyate of the Lake Traverse Reservation, South Dakota
Sokaogon Chippewa Community
Spirit Lake Tribe, North Dakota
St Croix Band of Lake Superior Chippewa
St Croix Chippewa Community
Stockbridge Munsee Tribe of Mohican Indians
Upper Sioux Community Minnesota

5.8.2 Environmental Analysis

In SD2, FERC lists the effects of continued Project operation on properties that are included in or eligible for inclusion in the NRHP as a potential resource issue to be evaluated. An Architectural Resources Survey (TRC 2020) and Phase I Archaeological Survey (TRC 2021) were conducted in accordance with the RSP and FERC's SPD.

By correspondence dated February 20, 2020, Wisconsin SHPO concurred with the findings from the Architectural Resources Survey and determined that the Junction Falls Development (AHI 25348) is not eligible for inclusion on the NRHP.

By correspondence dated February 22, 2021, Wisconsin SHPO determined that no cultural resources included on, or eligible for the NRHP were encountered during the Archeological Survey. Wisconsin SHPO determined that the proposed federal undertaking should not pose an adverse effect to Cultural Resources and that the hydroelectric Project associated with this relicensing may proceed to the next steps.

5.8.3 Proposed Environmental Measures

The Licensee is proposing no changes to the Project or the operation of the Project that would affect any historic sites or facilities or archaeological resources located within the Study Area APE or Proposed APE. At this time, the Licensee is not proposing construction of any new Project facilities or ground disturbing activities that have the potential to impact cultural resources.

To protect any cultural resources at the Project during the term of a new license, the Licensee is proposing to implement an HPMP, which provides background information on cultural resources at the Project, preservation goals and priorities, and consultation requirements. The HPMP will ensure that appropriate consultation occurs prior to any future activity that may affect historic properties associated with the Project. A draft HPMP is include in Appendix E-5.

5.8.4 Cumulative Effects

No potential cumulative effects to cultural resources have been identified as a potential concern at the Project. The Licensee's proposal to continue to operate and maintain the Project under the existing operating regime is not expected to result in either geographic or temporal cumulative impacts to cultural resources.

5.8.5 Unavoidable Adverse Effects

Continued operation of the Project will result in no unavoidable adverse effects on cultural resources.

5.8.6 References

Barth, R.J. 1981. An Archaeological Survey of the Proposed Improvements in Bartosh Park, City of River Falls, River Falls Township, Pierce County, Wisconsin.

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5.9 Socioeconomics

5.9.1 Affected Environment

The Project Boundary is located within the City of River Falls in Pierce County, Wisconsin. In terms of total population, Pierce County is ranked 35th in the state out of 72 counties. Pierce County is within the Minneapolis-St. Paul-Bloomington Minnesota-Wisconsin Metropolitan Statistical Area (MSA). This MSA includes 15 counties, 13 in Minnesota and 2 in Wisconsin, and covers a total of 7,047.6 square miles (U.S. Census Bureau 2019a).

The following sections provide a summary of selected socioeconomic characteristics for the City of River Falls, Pierce County, the MSA, and the State of Wisconsin.

5.9.1.1 General Land Use Patterns

The area immediately surrounding the Project is primarily urban. The U.S. Census Bureau’s urban areas represent densely developed territories and encompass residential, commercial, and other non-residential urban land uses. The most recent data indicate that in Wisconsin, 34% of the population resides in a rural area and 66% resides in an urban area (U.S. Census Bureau 2010).

Table E-5.9-1 summarizes the rural and urban nature in the City of River Falls, Pierce County, the MSA, and the State of Wisconsin, for comparative purposes. General land use is further described in Section 5.7.

Table E-5.9-1. Population in Rural and Urban Areas, 2010

	River Falls	Pierce County	MSA	Wisconsin
Urban Areas	99.6%	44%	89.7%	66%
Rural Areas	0.4%	56%	10.3%	34%

Source: U.S. Census Bureau, 2010

5.9.1.2 Population and Housing Patterns

From 2000 through 2019, it is estimated that the total population of the United States grew by 14.2%. The City of River Falls grew more than the United States, with an estimated population growth of 27.6%. Pierce County and the state of Wisconsin had slower growths, but they still grew by 13.9% and 7.9% respectively (U.S. Census Bureau 2003; U.S. Census Bureau 2011; U.S. Census Bureau 2019b; U.S. Census Bureau 2019c).

Table E-5.9-2 provides a comparison of the 2010 Census results and 2019 Census estimates for the Project region.

Table E-5.9-2. Population in the Project Region

	River Falls	Pierce County	MSA	Wisconsin
Population (2010)	15,000	41,019	3,333,633	5,686,986
Population (2019)	16,027	42,754	3,640,043	5,822,343
Percent Change 2010 to 2019	+6.8%	+4.2%	+9.2%	+2.4%

Source: U.S. Census Bureau, 2019b

According to Wisconsin’s Future Population Report (2013) prepared for the State of Wisconsin’s Department of Administration, the area’s population growth is expected to continue over the next 20 years. The State of Wisconsin’s population is projected to increase by 11.6% from 2019 through 2040 (Wisconsin DOA 2013b) and projections show that Pierce County will experience similar growth with its populations increasing by 9.5% (Wisconsin DOA 2013a).

Table E-5.9-3 summarizes the projected population of the City of River Falls, Pierce County, and the state of Wisconsin. Data are not available for the population projections of the MSA.

Table E-5.9-3. Projected Population Change in the Project Region

	River Falls	Pierce County	Wisconsin
Population (2019) ¹	16,027	42,754	5,822,343
Projected (2040) ^{2,3}	18,150	46,825	6,500,000
Percent Change 2019 to 2040	+13.2%	+9.5%	+11.6%

Source: ¹U.S. Census Bureau, 2019b, ²Wisconsin DOA, 2013a, ³Wisconsin DOA, 2013b

While total population identifies trends over time, population density allows for the comparisons of the number of persons per square mile across geographic areas of varying sizes. In the 2010 Census, the City of River Falls had the greatest population density of 2,300.3, followed by the MSA (516.5), the state of Wisconsin (505.5), and Pierce County (71.5) (U.S. Census Bureau 2019c) (Table E-5.9-4).

Approximately 27.5% of the state of Wisconsin residents were under the age of 18 from 2015 to 2019 according to the Census Bureau’s American Community Survey. Slightly lower ratios were recorded for the City of River Falls, the MSA, and Pierce County with approximately 20.4%, 23%, and 25.5% of the residents being under the age of 18, respectively. Wisconsin had the highest percentage of persons 65 years old and older (17.5%) compared to Pierce County (15.3%), the

MSA (15.0%), and City of River Falls (12.6%). Pierce County as a whole had the greatest rate of Caucasian residents (95.7%) during the 2015 to 2019 period followed by the City of River Falls (93.8%), the state of Wisconsin (87.0%), and the MSA (75.0%) (U.S. Census Bureau 2019c).

Additional demographic detail for the Project region is shown in Table E-5.9-4, with the state of Wisconsin shown for reference.

Table E-5.9-4. Selected Demographic and Household Characteristics of the Project Region

	River Falls ¹	Pierce County ¹	MSA ²	Wisconsin ¹
2019 Population	16,027	42,754	3,640,043	5,822,343
Geography (2010)				
Land Area in Square Miles	6.52	573.75	7,047.6	54,157.80
Population Density (persons per square mile)	2,300.3	71.5	516.5	105.5
Gender (2010-2019)				
Male	44.9%	49.8%	50%	49.8%
Female	55.1%	50.2%	50%	50.2%
Age (2010-2019)				
Under 5 years old	4.1%	4.9%	N/A	5.7%
Under 18 years old	16.3%	20.6%	23.0%	21.8%
18 years old & older	67.0%	59.2%	62.0%	55.0%
65 years old & older	12.6%	15.3%	15.0%	17.5%
Race (2010-2019)				
White	93.8%	95.7%	75.0%	87.0%
Black or African American	1.1%	0.9%	9.0%	6.7%
American Indian & Alaska Native	0.2%	0.5%	<1.0%	1.2%
Asian	1.6%	1.2%	7%	3.0%
Native Hawaiian and Other Pacific Islander	0.0%	0.1%	<1.0%	0.1%
Two or more races	2.8%	1.6%	3.0%	2.0%
Ethnicity (2010-2019)				
Hispanic or Latino	2.6%	2.3%	6.0%	7.1%
Households (2015-2019)				
Number of Households	5,521	15,593	1,396,025	2,358,156
Average Persons per Household	2.4	2.5	2.6	2.4

Source: ¹U.S. Census Bureau, 2019c, ²U.S. Census Bureau, 2019a

Data available from the American Community Survey (based on a 5-year survey of 2015 to 2019 U.S. Census Bureau data) show a median household income of \$61,747 for the state of Wisconsin, \$72,323 for Pierce County, \$83,698 within the MSA, and the lowest household income of \$59,440 within the City of River Falls. Approximately 11.3% of the population was living below the poverty level in the state of Wisconsin, with a higher poverty rate in the City of River falls (16.0%), and a lower poverty rate of approximately 8.2% and 9.3% in the MSA and Pierce County, respectively (U.S. Census Bureau 2019d; U.S. Census Bureau 2019e).

Table E-5.9-5 summarizes income and poverty characteristics of the Project region.

Table E-5.9-5. Income and Poverty Characteristics of the Project Region

	River Falls	Pierce County	MSA ⁴	Wisconsin
Income (2015-2019)*¹				
Median Household Income	\$59,440	\$72,323	\$83,698	\$61,747
Mean Household Income	\$76,312	\$87,038	N/A	\$80,674
Per Capita Income ²	\$28,119	\$33,061	\$42,681	\$33,375
Unemployment (2015-2019)³				
Unemployment Rate	1.1%	2.3%	N/A	3.7%
Poverty (2015-2019)³				
Persons in Poverty	16.0%	9.3%	8.2%	11.3%

*In 2019 inflation-adjusted dollars.

Source: ¹US Census Bureau 2019d; ²U.S. Census Bureau 2019c, ³US Census Bureau 2019e, ⁴U.S. Census Bureau 2019a

According to the American Community Survey that took place from 2015-2019, the City of River Falls had 5,753 housing units with 96.0% of them being owner-occupied and a median home value of \$197,000. Pierce County had 16,599 housing units with approximately 93.9% of them being owner-occupied and a median home value of \$208,700. The MSA had 1,469,597 housing units, with the least amount of owner-occupied homes in comparison (70%) and the greatest median home value of \$284,500. The state of Wisconsin falls in the middle, in comparisons, with 87.5% of the 2,694,527 homes being owner-occupied and the lowest median home value of \$180,600 (U.S. Census Bureau 2019a; U.S. Census Bureau 2019f).

Table E-5.9-6 presents the housing characteristics of the Project region.

Table E-5.9-6. Housing Characteristics of the Project Region

	River Falls¹	Pierce County¹	MSA²	Wisconsin¹
Housing (2015-2019)				
Total Housing	5,753	16,599	1,469,597	2,694,527
Owner-occupied	96.0%	93.9%	70.0%	87.5%
Median Value, Owner-occupied	\$197,000	\$208,700	\$284,500	\$180,600
Median Gross Rent	\$893	\$874	N/A	\$856

Source: ¹US Census Bureau, 2019f, ²U.S. Census Bureau, 2019a

5.9.1.3 Economic Patterns

According to the American Community Survey (based on a 5-year survey from 2015 to 2019 U.S. Census Bureau data), Pierce County’s unemployment rate was 2.3%, the state of Wisconsin had an unemployment rate of 3.7%, and the City of River Falls had the lowest unemployment rate of 1.1% (U.S. Census Bureau 2019e). Overall, in Wisconsin, the manufacturing industry employed the most people and in the City of River Falls and Pierce County, the educational services, health care and social assistance industry employed the most people. The high amount of educational service employees in Pierce County is likely due to the University of Wisconsin-River Falls being located within the City of River Falls.

Other significant industries in the Project region are retail trade, construction, and professional, scientific, management, administrative and waste management services (U.S. Census Bureau 2019g). The MSA did not have data available on employment by industry.

Table E-5.9-7 presents the employment by industry in the Project region.

Table E-5.9-7. Employment by Industry in the Project Region

	River Falls	Pierce County	Wisconsin
Agriculture, forestry, fishing and hunting, and mining	4.5%	4.9%	3.3%
Construction	3.9%	7.6%	10.1%
Manufacturing	12.1%	17.1%	25.0%
Wholesale trade	2.5%	2.4%	3.6%
Retail trade	17.0%	11.3%	10.6%
Transportation and warehousing, and utilities	2.1%	4.4%	6.5%
Information	1.6%	1.2%	1.7%

	River Falls	Pierce County	Wisconsin
Finance and insurance, and real estate and rental and leasing	3.6%	4.5%	4.8%
Professional, scientific, and management, and administrative and waste management services	6.3%	7.3%	9.1%
Educational services, and health care and social assistance	27.6%	23.0%	10.6%
Arts, entertainment, and recreation, and accommodation and food services	11.0%	8.9%	7.6%
Other services, except public administration	4.4%	3.6%	3.6%
Public administration	3.4%	3.8%	3.5%

Source: ¹US Census Bureau, 2019g

5.9.2 Environmental Analysis

The areas surrounding the Project support various employment industries, including educational services, health care, social assistance, and manufacturing. There was one requests for a study related to socioeconomic topics that was suggested during consultation. Friends of the Kinni recommended a comprehensive study of recreation, tourism, and aesthetic resources quantifying their economic values. This recommended study would have included the analysis of the economic value of potential recreational, tourism, and aesthetic opportunities if one or both dams were removed. Specifically, Friends of the Kinni recommended that the study consider the following alternatives: (1) no-action alternative - the project would continue to operate as it does under the existing license; (2) the licensee’s proposed action - maintaining Junction Falls dam and decommissioning and removing Powell Falls dam; and (3) project decommissioning - both Junction Falls and Powell Falls dams would be removed.

FERC concluded that this recommended study was not required for the Project because the economic information on Project costs, such as operation and maintenance, is already available and would be provided in a final license application, the Licensee did not propose the decommissioning and removal of the Junction Falls Development, and the Licensee conducted a visitor count and included survey questions that addressed why tourists visit the Project as a part of the Recreation Facility Inventory and Recreation Use Assessment Study.

The Licensee anticipates that continued operation of the Project will not affect socioeconomic resources in the Project region.

5.9.3 Proposed Environmental Measures

The Licensee is proposing to continue to operate and maintain the Project under the existing operating regime. Thus, continued Project operation is not anticipated to have any direct or indirect adverse effects on land use, population, employment, income, or other socioeconomic resources. For this reason, no measures directly aimed at enhancing area socioeconomic resources are proposed.

5.9.4 Cumulative Effects

The Licensee's proposal to continue to operate and maintain the Project under the existing operating regime is not expected to result in cumulative impacts to socioeconomic resources.

5.9.5 Unavoidable Adverse Impacts

No unavoidable adverse impacts to socioeconomic resources are expected to occur as a result of the continued operation of the Project.

5.9.6 References

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Wisconsin Department of Administration. 2013b. Wisconsin's Future Population. Available at:
https://doa.wi.gov/DIR/FinalProjs2040_Publication.pdf. Accessed March 2, 2021.

5.10 Scenic and Aesthetic Resources

5.10.1 Affected Environment

This section includes a description of the visual characteristics of the land and waters at and surrounding the Project.

Visual Character of the Project and Immediate Surrounding Area

The Junction Falls Development is located on the Kinnickinnic River in the City of River Falls, Wisconsin. The Project facilities and land use in the Project Boundary are described in Sections 3.1.1 and 5.7 of this Exhibit E respectively. The Junction Falls powerhouse consists of a brick superstructure above a concrete substructure. Immediately adjacent to the Junction Falls Development is the Junction Mill smokestack, a remnant of a former flour mill, which historically occupied the site. The Junction Falls dam is located at a natural waterfall. The lower shelf of this natural waterfall can be seen in Photos E-5.10-1 and E-5.10-4. The Junction Falls powerhouse can be seen from Glen Park and from Winter Street.

Photos E-5.10-1 through E-5.10-6 depict the Project and immediate surrounding area.

Photo E-5.10-1: Junction Falls Dam and Powerhouse, Kinnickinnic River and Junction Falls, as Seen from Downstream of the Dam



Photo E-5.10-2: Junction Falls Powerhouse, view from Glen Park



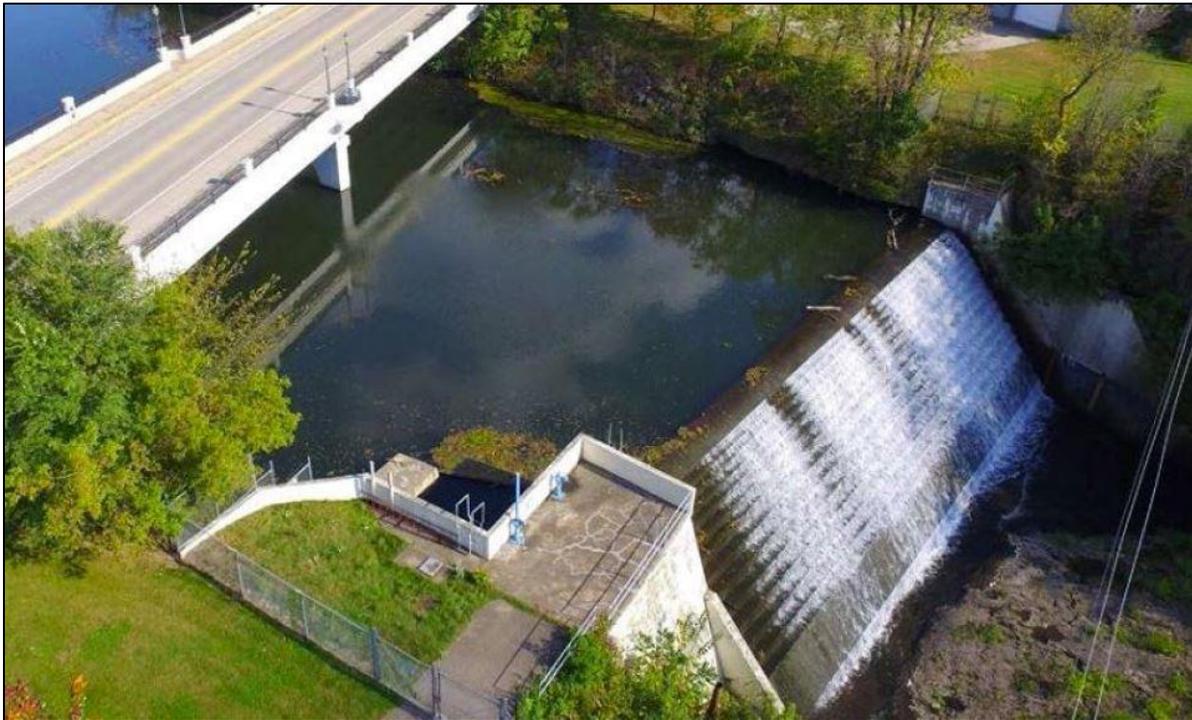
Photo E-5.10-3: Kinnickinnic River downstream of Junction Falls Dam



Photo E-5.10-4: Junction Falls Dam, from Glen Park



Photo E-5.10-5: Aerial View of Junction Falls Dam



**Photo E-5.10-6: Winter Street Bridge, Junction Falls Impoundment (Lake George),
Upstream of Junction Falls Dam**



5.10.2 Environmental Analysis

During consultation, the National Parks Service (NPS) provided comments on the Initial Study Plan requesting that aesthetic flow be added to an existing question about aesthetics on the Recreation User Survey. The Recreation User Survey form was updated to include the suggested change. Questions pertaining to aesthetic resources asked how satisfied survey respondents were (on a scale of “1 Not satisfied at all” to “5 Extremely Satisfied”) with the scenic views/aesthetics at Lake George, the Junction Falls dam (including aesthetics flows over the spillway), and the overall scenic views/aesthetics. The average response was 4.05, with most respondents “moderately satisfied.” Based on the results of this survey, respondents are satisfied with the scenic and aesthetic resources at the Project. NPS noted in their comments on the DLA that given the results of the survey respondents they will refrain from making any further recommendations regarding the spillway aesthetic flows. Comments received during the survey ranged from those that were satisfied to those that would like to see the dam removed. Some examples of comments received from those surveyed that were “less than satisfied” included that water in Lake George is too stagnant, there are too many weeds, too much algae, and too many geese. None of those surveyed noted that they were unsatisfied with the current aesthetic flows over the spillway. The complete Recreation Use Assessment (GSRC 2020) was filed within the USR.

The Friends of the Kinni requested a Comprehensive Study of Recreation, Tourism, and Aesthetic Resources Quantifying Their Economic Values in Comparison to Alternative Figures for the Same Area Quantifying Each Alternative’s Social and Economic Impact for the General Public, which would include an estimation of the aesthetic value of the Project with the dams and the aesthetic value without the dams after restoration of the falls. FERC did not recommend this study be required in the Study Plan Determination; thus this study was not conducted.

The Licensee is proposing no changes to the Project facilities or to Project operations that would affect scenic and aesthetic resources. As a result, the Licensee anticipates that continued operation of the Project as proposed will not adversely affect scenic and aesthetic resources.

5.10.3 Proposed Environmental Measures

The Licensee has proposed no changes to the Project or the Project operations which would affect the viewshed; therefore, no PME measures are proposed relative to scenic and aesthetic resources. No PME measures were proposed by agencies or stakeholders.

5.10.4 Cumulative Effects

The Licensee’s proposal to continue to operate and maintain the Project under the existing operating regime is not expected to result in cumulative impacts to scenic and aesthetic resources.

5.10.5 Unavoidable Adverse Impacts

No unavoidable adverse impacts to scenic and aesthetic resources are expected to occur as a result of the continued operation of the Project.

5.10.6 References

Gulf South Research Corporation (GSRC). 2020, December. Summary Report. River Falls Hydroelectric Project, Recreation Use Assessment. Available in the Updated Study Report: https://elibrary.ferc.gov/eLibrary/docinfo?accession_num=20210129-5114

5.11 Economic Analysis

5.11.1 Costs and Value of PME Measures Affecting Developmental Resources

In SD2, FERC lists the effect of the proposed environmental measures costs on the Project's economics as a potential resource issue to be evaluated. The Licensee is proposing no changes to Project operation that will result in lost generation or generation value. The Licensee proposes to continue to operate the Project as run-of-river, which adds to cost to developmental resources. Operating the Project as proposed will allow the Licensee to continue to generate electricity as it has in the past, with an average annual net generation of 1,220,000 kWh expected (based on the period 2014 to 2020, as outlined in Section 1.4 of Exhibit A).

5.11.2 Costs and Value of PME Measures Affecting Non-Developmental Resources

The Licensee is proposing the following PME measures for the protection of important resources:

- Continued run-of-river operation for the protection of water quality and aquatic resources. The associated costs of continued run-of river operation is \$0.
- Continued 5kW/15-minute ramping protocol for the mitigation of downstream flow fluctuations caused by unit outages for trashrack cleaning. The associated costs of the continued ramping protocol is \$0.
- While no Prohibited invasive species are currently located in the Project Boundary, the Licensee will manage invasive species categorized as Prohibited by Wisconsin's invasive species rule, Wis. Admin. Code NR 40 if observed in the Project Boundary in the future. The estimated costs for managing Prohibited invasive species is \$5,000 - \$10,000 over the license term, dependent on which species, if any, become established in the future and require management.
- Continued operation and maintenance of recreation sites and facilities surrounding Lake George, which are open and available to the public, including a portion of the White Kinnickinnic Pathway, Lake George Fishing Area, and the Lake George Boat Launch. The associated costs of general maintenance of the recreation sites is approximately \$5,000 per year²⁰. In addition to annual maintenance, the Licensee is considering future repair or replacement of the Lake George Fishing Area in approximately 10 to 15 years. Estimated costs for future work is \$30,000 to \$50,000.
- A draft RMP and a draft HPMP were prepared and included in the Draft License Application. A final version of the RMP and a draft version HPMP are included in Appendix E-4 and E-5 respectively with this FLA. The associated costs of preparing the

²⁰ This cost was not previously tracked as a hydropower annual operations and maintenance expense outlined in Exhibit A Table A-1.10-1.

RMP and HPMP were included with the total license application development costs and are estimated to be a total of \$14,000 (approximately \$7,000 each).

- Implementation of the RMP and HPMP over the term of the new license would be estimated at \$45,000 (approximately \$40,000 for the RMP and \$5,000 for the HPMP).

5.11.3 Project Value and Term of License

The overall cost and value of the licensed Project is presented in Exhibit A. The Licensee is requesting that the Commission issue a new license for the Project with the default license term of 40 years.

5.12 Consistency with Comprehensive Plans

Section 10(a)(2)(A) of the Federal Power Act (FPA), requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, and conserving a waterway or waterways affected by the project. On April 27, 1988, the Commission issued Order No. 481-A, revising Order no. 481, issued October 26, 1987, establishing that the Commission will accord FPA section 10(a)(2)(A) comprehensive plan status to any federal or state plan that:

1. Is a comprehensive study of one or more of the beneficial uses of a waterway or waterways;
2. Specifies the standards, the data, and the methodology used; and
3. Is filed with the Secretary of the Commission.

The list of Commission approved federal and state comprehensive plans was reviewed to determine applicability to the Project. The federal resource agencies, as well as the State of Wisconsin, have prepared a number of comprehensive plans, which provide a general assessment of a variety of environmental conditions in Wisconsin. These plans address water quality, water pollution control, invasive species management, recreation, and fisheries issues. The Project's consistency with FERC-approved state and federal comprehensive plans is discussed below. Comprehensive Plans listed below have not been updated with FERC since their development unless otherwise noted.

Based on a March 2021 review of FERC approved plans, 12 federal and 9 state plans have been identified. The state plans include Wisconsin Statewide Comprehensive Outdoor Recreation Plan (SCORP) (addressing recreation planning), aquatic species, and species specific recovery plans (Peregrine Falcon, Red-necked Grebe, Common Tern, Forster's Tern). Federal plans focus on national scenic riverways, nationwide rivers inventory, waterfowl management and recreational fisheries policy. Specific plans are listed and discussed below; plan dates are also included. (Table E-5.12-1)

Table E-5.12-1. State and Federal Plans Applicable to the Project

Agency	Plan Title	Year	Plan Summary
National Park Service, Minnesota Department of Natural Resources, Wisconsin	Final master plan for the Lower St. Croix National Scenic Riverway	1975	The purpose of this master plan is to preserve the existing scenic and recreational resources of the Lower St. Croix River through controlled development.

Agency	Plan Title	Year	Plan Summary
Department of Natural Resources			
National Park Service, Department of the Interior	Land protection plan, St. Croix National Scenic Riverway	1984	Plan currently unavailable for review.
National Park Service, Department of the Interior	Land protection plan, Lower St. Croix National Scenic Riverway	1984	Plan currently unavailable for review.
National Park Service, Department of the Interior	Statement for management, St. Croix and Lower St. Croix National Scenic Riverway	1986	Plan currently unavailable for review.
National Park Service, Department of the Interior	The National Rivers Inventory	1993	Plan currently unavailable for review.
Upper Mississippi River Basin Commission	Comprehensive master plan for the management of the Upper Mississippi river system – environmental report	1981	Plan currently unavailable for review.
Upper Mississippi River Basin Commission	Comprehensive master plan for the management of the Upper Mississippi river system	1982	The report focuses on studies addressing economic, environmental, and recreational management of the Upper Mississippi River System.
Upper St. Croix Management Commission	Upper St. Croix management policy resolution	1993	Plan currently unavailable for review.
U.S. Fish and Wildlife Service	Higgins Eye (<i>Lampsilis higginsii</i>) mussel Recovery Plan	1983: original 2004: First Revision	This report focuses on the recovery of the conservation of the species at identified Essential Habitat Areas.
U.S. Fish and Wildlife Service, Canadian Wildlife Service, Department of the Interior	North American waterfowl management plan	1986: original 2018: update	This plan is based on three goals: Goal 1: Abundant and resilient waterfowl populations to support hunting and other uses without imperiling habitat.

Agency	Plan Title	Year	Plan Summary
			<p>Goal 2: Wetlands and related habitats sufficient to sustain waterfowl populations at desired levels, while providing places to recreate and ecological services that benefit society.</p> <p>Goal 3: Growing numbers of waterfowl hunters, other conservationists and citizens who enjoy and actively support waterfowl and wetlands conservation.</p>
U.S. Fish and Wildlife Service	Upper Mississippi River & Great Lakes Region joint venture implementation plan. A component of the North American waterfowl management plan	1993: original 2007: update	The plan of this implementation plan is to move regional and state-level managers from opportunity-driven bird habitat projects toward more biologically-based projects and programs. The approach uses four primary elements: 1) biological planning and resource assessment, 2) landscape conservation design, 3) program delivery, and 4) evaluation by means of monitoring and research.
U.S. Fish and Wildlife Service, Fisheries USA	The recreational fisheries policy of the U.S. Fish and Wildlife Service	1989	This policy defines the U.S. Fish and Wildlife Service’s stewardship role in the management of the Nation’s recreational fishery resources.
Wisconsin Department of Natural Resources	St. Croix river Basin area wide water quality management plan; Replaced by The State of the St. Croix Basin	1980: replaced in 2002	The primary purposed of this report is to provide direction to the Department staff during preparation of biennial work plans. The report conveys an ecosystem management approach because it includes both land and water resource issues.
Wisconsin Department of Natural Resources	Wisconsin water quality assessment report to Congress	2020	This report summarizes the assessment process and activities related to water quality

Agency	Plan Title	Year	Plan Summary
			protection during the past two years.
Wisconsin Department of Natural Resources	Wisconsin Statewide Comprehensive Outdoor Recreation Plan (SCORP)	1991-96	This plan evaluates the outdoor recreation supply, demand, trends and issues in the state of Wisconsin.
Wisconsin Department of Natural Resources	Wisconsin’s biodiversity as a management issue	1995	This report proposes that the best way to address biodiversity as a management issue is to apply the principles of ecosystem management to Department planning and programs.
Wisconsin Department of Natural Resources	Wisconsin Peregrine Falcon recovery plan	1987	This plan describes, in detail, ways to restore the population of the Peregrine Falcon in Wisconsin.
Wisconsin Department of Natural Resources	Wisconsin red-necked Grebe recovery plan	1988	Plan available as a hard copy only, which cannot be obtained during the COVID-19 pandemic. Red-necked grebe, however, are not known to reside in Pierce County.
Wisconsin Department of Natural Resources	Wisconsin Common Tern recovery plan	1988	Plan available as a hard copy only, which cannot be obtained during the COVID-19 pandemic. Common terns, however, are not known to reside in Pierce County.
Wisconsin Department of Natural Resources	Wisconsin Forster’s Tern recovery plan	1988	This plan focuses on how to rebuild the Forster’s Tern population in Wisconsin given its listing on the endangered species list.
Wisconsin Department of Natural Resources	Wisconsin’s forestry best management practices for water quality	2020	The best management practice outlined in this document cover how to manage forests while protection the environment.

The comprehensive plans listed above have several main objectives:

- To maintain and promote wildlife in desirable numbers for hunting, fishing and observation
- To increase recreational activities
- To promote recovery of threatened and endangered species.

The proposed operation of the Project will not change from the current operation, and activities proposed by the Licensee generally support the intent of these plans. Furthermore, the Licensee intends to continue to work with the federal and state agencies (as they have done historically) to address resource concerns. Therefore, continued operation of the Project will continue to support consistency with these plans.

5.13 Consultation Documentation

The distribution list for the FLA contains the name and address of every participating Federal, state, and interstate resource agency, Tribe, or member of the public with which the applicant consulted in preparation of the Project relicensing documents. A notification of the FLA filing was sent via certified mail to affected landowners, Tribes and nearest municipalities. Appendix E-1 contains a summary of the consultation record for the relicensing, along with copies of consultation correspondence.

**APPENDIX E-1: SUMMARY RESPONSE TO COMMENTS ON DLA AND
CORRESPONDENCE RECORD**

**Exhibit E – Appendix E-1
 Summary Response to Comments on Draft License Application**

No.	Topic	Comment	Licensee Response
FERC June 29, 2021			
1	Initial Statement	Page IS-1 states that City of River Falls Municipal Utilities (City of River Falls) is applying for a new license for River Falls Hydroelectric Project, an existing licensed minor project. Because the project is licensed as a minor project, please indicate in the final license application (FLA) that you are applying for a subsequent license.	The Initial Statement, IS-1 has been revised to specify the Licensee is applying for a subsequent license.
2	Initial Statement	Page IS-6 identifies the City of Hastings, Wisconsin, as having a population of 5,000 or more people and is located within 15 miles of the project dam. Because the City of Hastings is a jurisdiction in Minnesota, in the FLA, please include the City of Hastings, Minnesota, as a municipality having a population of 5,000 or more people and is located within 15 miles of the project dam.	The Initial Statement, IS-6 has been corrected to list the City of Hastings, Minnesota.
3	Exhibit A	Section 1.1, <i>Generating Units</i> , states that the generator has a voltage of 2,300 volts, which is in agreement with nameplate provided in Photo E-1.1-1: Project Nameplates. However, throughout Exhibit A, the generator is described as having a voltage of 2,400 volts. Please provide a consistent generator voltage in the FLA, which includes Exhibit A, Exhibit E, Exhibit F, and Exhibit G.	The correct generator voltage is 2,300 volts. Voltage has been updated throughout the FLA.
4	Exhibit A	Section 1.3, <i>Plant Operation</i> , states the wasteway is not normally used to pass either normal or flood flows. In the FLA, please describe the wasteway, its operation, and the original, present, and proposed use of the wasteway.	Additional language clarifying use of the wasteway has been added to Section 1.3. The wasteway is not currently used, nor is it proposed to be utilized by RFMU in the future.

No.	Topic	Comment	Licensee Response
5	Exhibit A	Table A-1.8-1, <i>Junction Falls Development Information Summary</i> , states that the gross storage capacity is not applicable for run-of-river project operation. If known, in the FLA, please include the gross storage capacity, which is the storage capacity below the spillway crest of the reservoir	The gross storage capacity of the Project is 142.7 acre-feet at elevation 865.6 feet NAVD88; this information has been added to Table A-1.8-1.
6	Exhibit A	<p>Figure A-8.0-1, <i>Single-Line Diagram for the Junction Falls Development</i>, provides the following information that is inconsistent with other sections of Exhibit A. These inconsistencies include:</p> <ul style="list-style-type: none"> a) The lead from the 250-kilowatt (kW) generator is identified as 2.4 kilovoltamperes (kVA). Section 1.1, <i>Generating Units</i>, states that the generator is rated at 312 kVA. b) "OCB" is identified as 400 amp – 5 kilovolt (kV). However, Exhibit A provides the generator voltage as either 2.3 kV or 2.4 kV. c) The bus is identified as 2,400 volts. Section 1.1, <i>Generating Units</i>, states that the generator has a voltage of 2,300 volts. d) The Howard step-up transformer is identified as 500 kVA / 12,470 / 4,160. However, section 1.1, <i>Generating Units</i>, states the 500 kVA Howard step-up transformer transforms energy at 2,400 volts to 12,470 volts. In the FLA, please either revise the apparent inconsistencies in the above four items or explain why the above four items are not inconsistent. 	<p>Figure A-8.0-1 has been updated as follows:</p> <ul style="list-style-type: none"> a) The lead from the 250-kW generator is 2,300 volts. b) "OCB" stands for Oil Circuit Breaker. The Oil Circuit Breaker is 400 amp and rated up to 5,000 volts. The generator voltage of 2,300 volts moves through this device. c) The bus is 2,300 volts. d) The Howard step-up transformer is 500 kVA/12,470 volts/4,160 volts (rated). Section 1.1 has been revised to clarify that the 500 kVA Howard step-up transformer transforms energy at 2,300 volts to 12,470 volts

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No.	Topic	Comment	Licensee Response
7	Exhibit E – Project Boundary	Section 3.1.2, <i>Project Boundary</i> , states that the project boundary includes land and water up to elevation 865.6 feet North American Vertical Datum of 1988 (NAVD88)1 to account for the 100-year flood. However, section 4.41(h)(2)(i)(B) of the Commission’s regulations require that the exterior margin of the reservoir be defined by the normal maximum surface elevation. In the FLA, please explain why the proposed project boundary would include lands to account for the 100-year flood. If these lands are not needed for project purpose (i.e. project operation or maintenance), please modify the proposed project boundary to include those lands necessary for project purpose, including recreation facilities.	The Project Boundary above the dam has been revised to include lands up to the normal full pool with an elevation of 865.6 feet NAVD88 and recreation facilities associated with Lake George (White Kinnickinnic Pathway, Lake George Boat Launch and Lake George Fishing Area). Other lands and recreation facilities located outside of the normal full pool elevation have been removed from the Project Boundary above the dam. These changes have been included throughout the FLA in various sections of the text, figures, and the Recreation Management Plan.
8	Exhibit E – Project Boundary	Section 4.41(h)(2)(i)(B) of the Commission’s regulations require that the project boundary only enclose those lands necessary for operation and maintenance of the project and other project purposes. Figure E-3.1-1 shows the power plant and associated lands that do not appear to be necessary for operation and maintenance of the project and other project purposes. In the FLA, please explain why the power plant and associated lands are necessary for operation and maintenance of the project or other project purposes. If these lands are removed from the project boundary, ensure that access to the project is included in the project boundary.	The Project Boundary below the dam has been revised to enclose lands necessary for operation and maintenance of the Project and other Project purposes. The power plant adjacent to the powerhouse is used for Project purposes, including access to the powerhouse, workstation for hydropower staff, storage, and housing of appurtenant facilities. The driveway, parking lot, and a recreation trail provide access to the Project facilities. Enclosed lands around the powerhouse include the Howard step-up transformer and interconnection lines, as well as access to Project facilities.
9	Exhibit E – Project Boundary	Figure E-3.1-1 shows the project boundary to enclose the interconnection line to the Howard step-up transformer. However, it is not clear why the 120-foot-long, 12.4 kV interconnection line from the Howard step-up transformer to the substation is not included in the project boundary. In the FLA, please describe the non-project use of the 120-foot-long 12.4 kV interconnection line, as shown on Exhibit G, sheet 1. If the 120- foot-long, 12.4 kV interconnection line has no non-project use, in the FLA, please include this interconnection line in the project boundary.	The approximately 480 foot long, 12.47 kV interconnection line from the Howard step-up transformer to the substation has been added to the Project Boundary.

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 Response to DLA Comments

No.	Topic	Comment	Licensee Response
10	Exhibit E – Current and Proposed Actions and Alternatives	Section 3.1.4, <i>Existing Project Operations</i> , states to mitigate downstream flow fluctuations caused by unit outages for trashrack cleaning, the City of River Falls adopted a 5 kW per 15-minute ramping protocol. However, section 3.1.5, which identifies current protection, mitigation and enhancement (PME) measures, does not include the 5 kW per 15-minute ramping protocol. In the FLA, please either include the 5 kW per 15 minute ramping protocol as a current protection, mitigation, or enhancement (PME) measure or provide an explanation as to why the 5 kW per 15 minute ramping protocol is not a current PME measure.	The 5 kW per 15-minute ramping protocol has been added to Section 3.1.5 as a current PME measure.
11	Exhibit E – Current and Proposed Actions and Alternatives	Section 3.3.4, <i>Proposed Environmental Measures</i> , does not include the current 5 kW per 15-minute ramping protocol to mitigate downstream flow fluctuations caused by unit outages for trashrack cleaning. In the FLA, please state whether you propose to continue implementing the ramping protocol.	The 5 kW per 15-minute ramping protocol has been added to Section 3.3.4 as a proposed PME measure.
12	Exhibit E – Current and Proposed Actions and Alternatives	Section 3.3.4, <i>Proposed Environmental Measures</i> , includes development of a recreation management plan and a historic properties management plan as proposed PME measures. However, section 3.3.4 does not state whether the City of River Falls proposes to implement these plans. In the FLA, please state whether implementation of these plans is a proposed environmental measure and provide the operation and maintenance costs.	Section 3.3.4 has been updated to clarify that the Recreation Management Plans and Historic Properties Management Plan will be implemented. Operation and maintenance costs have been provided.
13	Exhibit E – Geological and Soil Resources	Figure E-5.1-2 shows the major landscape features of Wisconsin. However, there is no description in the text or legend that explains the numbering provided in the figure. As provided in the draft license application (DLA), there is insufficient information to understand the major landscape features shown in figure E-5.1-2. Therefore, in the FLA, please describe the numbering provided in figure E-5.1-2 necessary to convey an understanding of the major landscape features of Wisconsin. As shown in figure E-5.1-1,	Section 5.1 and Figure E-5.1-2 have been updated to describe the numbering and label the Project location.

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No.	Topic	Comment	Licensee Response
14	Exhibit E – Geological and Soil Resources	<p><i>Laurentide Ice Sheet in Wisconsin</i>, please indicate the project location in figure E-5.1-2.</p> <p>Figure E-5.1-3, <i>Bedrock Geology of Wisconsin</i>, shows the bedrock geology and provides a legend that provides an explanation of the geologic features. However, the majority of text in this figure is pixelated and indistinct. Therefore, in the FLA, please ensure all text is legible. As shown in figure E-5.1-1, <i>Laurentide Ice Sheet in Wisconsin</i>, please indicate the project location in figure E-5.1-3.</p>	<p>Figure E-5.1-3 has been updated to ensure text is legible and label the Project location.</p>
15	Exhibit E – Geological and Soil Resources	<p>Section 5.1.2, <i>Environmental Analysis</i>, states that the June 2020 flood event rearranged some sediments in Lake George and also the Kinnickinnic River downstream. This section concludes by stating that continued operation of the project would not adversely affect geological and soil resources within or downstream of the project. However, the DA did not describe the information and analysis that led the City of River Falls to the conclusion that continued operation of the project would not adversely affect geological and soil resources within or downstream of the project. Therefore, in the FLA, please describe how the City of River Falls came to the conclusion that continued operation of the project would not adversely affect geological and soil resources within or downstream of the project, which would include the decommissioned Powell's Falls Development. Please provide any supporting information used to reach the conclusion of continued project operation would have no adverse effect to geological and soil resources within or downstream of the project.</p>	<p>Section 5.1.2 has been updated to address comments.</p>

No.	Topic	Comment	Licensee Response
16	Exhibit E – Developmental Resources	Section 5.11.2, <i>Costs and Value of PME Measures Affecting Non-Developmental Resources</i> , presents costs for three of the five PME measures presented in section 3.3.4, <i>Proposed Environmental Measures</i> . No cost was provided for continued run-of-river operation or continued operation and maintenance of recreation sites surrounding Lake George. In the FLA, please include the cost for all proposed environmental measures, both development and implementation, even if they have a zero-dollar cost. Additionally, please clarify if cost to operate and maintain the project recreation sites is included in the \$60,645 cost estimate provided in section 7.0, <i>Annual Operations and Maintenance Expenses</i> , of the DLA.	Section 5.11.2 has been updated to include costs for all proposed PMEs. Costs to operate and maintain the Project recreation sites was not previously tracked by RFMU as an annual hydropower expense, as outlined in Section 7.0. A cost estimate of approximately \$5,000 per year to maintain Project-specific recreation sites has been added to Section 5.11.2.
17	Exhibit E – Developmental Resources	Section 5.11.2, <i>Cost and Value of PME Measures Affecting Non-Developmental Resources</i> , of the DLA states that the associated costs of preparing the Historic Properties Management Plan and the draft Recreation Management Plan are included with the total license application development costs estimated to be a total of \$14,000. It is unclear what the separate cost estimate is for each plan independent of the total cost to develop the license application. Please provide a capital cost for the draft Recreation Management Plan and the Historic Properties Management Plan in the FLA.	Costs for development of the Recreation Management Plan and the Historic Properties Management Plan have been clarified in Section 5.11.2.
18	Exhibit E – Recreation and Land Use Resources	Section 4.2 of the <i>Draft Recreation Management Plan</i> provided in Appendix E-4 states that recreation use monitoring would occur concurrently with the City of River Falls Comprehensive Plan review and the plan would be updated to include the monitoring results. The plan further states that if the monitoring results suggest changes are necessary to meet demand at the project, any proposed modification to the Recreation Management Plan would be submitted to the appropriate agencies for review and comment prior to submittal to the Commission. However, it is not clear when the City of River Falls Comprehensive Plan gets reviewed nor how often. Further, the plan does not identify the appropriate	Section 4.2 of the Recreation Management Plan has been updated to specify when recreation use monitoring will occur and the agencies have been identified. The City's Comprehensive Plan is anticipated to be reviewed and updated approximately every 5 years over the license period.

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No.	Topic	Comment	Licensee Response
19	Exhibit F	Exhibit F-2, <i>Site Overview map</i> , does not show the location of the wasteway. In the FLA, please show the location and extent of the wasteway in Exhibit F-2.	Exhibit F-2 has been updated to include the location and extent of the wasteway.
20	Exhibit G	Sheet 1, <i>Project Boundary Map</i> , shows the 120-foot-long interconnection line from the Howard step-up transformer to substation as 12.4 kV. However, the single-line diagram and section 1.1 states the stepped-up voltage to be 12.47 kV. In the FLA, please provide a consistent voltage for the 120-foot-long interconnection line.	Exhibit G Sheet 1 and the single-line diagram have been updated to depict the 12,470-volt interconnection line.
21	Exhibit G	Section 4.41(h)(4) of the Commission's regulations require that all non-federal lands owned or to be acquired in fee by the applicant, and non-federal lands over with the applicant has acquired or plans to acquire the rights to occupy and use other than fee title, including the right to be acquired by easement or lease must be identified. Therefore, in the FLA, please include the required information on Exhibit G.	The required information has been added to Exhibit G.
National Park Service, June 15, 2021			
1	Recreation Facilities	The Recreation Use Assessment results indicate that most respondents of the recreation user survey were content with recreation in the Project Area, confirming the City of River Falls capability in managing recreation facilities. It's unclear, however, to which development the general survey response recommending improved accessibility for "old, young, and disabled" applies,	An ADA compliant restroom was added to Glen Park in 2020. This restroom facility is approximately 0.25 miles from Lake George and within walking distance for those recreating at Lake George. Portable toilets are also located in the park next to Lake George spring through fall.

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No.	Topic	Comment	Licensee Response
2	Aesthetic Flows	<p>Junction Falls, Powell Falls, or both. In addition, a complaint common to the White Kinnickinnic Pathway and to both projects in general summary was the lack/condition of restrooms; a below average score was given for restroom condition for the White Kinnickinnic Pathway. We recommend the Applicant include in its Final License Application (FLA) an ADA compliant restroom along the White Kinnickinnic Pathway.</p> <p>The recreation user survey was revised in March 2020 to include the NPS recommendation that the survey instrument included subjective questions regarding satisfaction with views, including flows, of the Junction Falls spillway from Glen Park located downstream of the dam. Survey respondents expressed “moderately satisfied” to “extremely satisfied”. Hence, we refrain from making further recommendations regarding spillway aesthetic flows.</p>	<p>Comment acknowledged.</p>
3	Recreation Management Plan	<p>The Draft Recreation Management Plan (RMP) states that the Licensee will monitor the five public recreation sites periodically over the term of the new Project License and that it will occur concurrently with the City of River Falls Comprehensive Plan review. The plan states that updates of the Project RMP will include results of recreation use monitoring and make proposed changes to the public recreation sites that use monitoring indicates are necessary to meet demand. Please include in the FLA the frequency these reviews will occur; we recommend also including a recreation facility condition assessment at the same time use monitoring occurs.</p>	<p>Section 4.2 of the Recreation Management Plan has been updated to specify when recreation use monitoring will occur along with the inclusion of a recreation facility condition assessment to be conducted concurrently. The City’s Comprehensive Plan is anticipated to be reviewed and updated approximately every 5 years over the license period.</p>

River Falls Hydroelectric Project FERC No. P-10489
 Exhibit E - Appendix E-1
 Response to DLA Comments

No.	Topic	Comment	Licensee Response
River Alliance of Wisconsin, June 30, 2021			
1	Project Operation	To protect fish and other aquatic life from unnatural fluctuating discharge flows released from the project, the licensee should operate the Junction Falls Hydro Project in a run-of-river (ROR) mode such that instantaneous inflow closely approximates project outflow. The reservoir should be operated within a range of plus or minus three inches from a set target elevation.	RFMU will continue to operate the Project in run-of-river mode. Project operation is described in the FLA Exhibit A, Section 1.3. The Project is operated in run-of-river mode by adjusting the turbine settings to maintain the pool level as close as practicable to the spillway crest elevation, 865.6 ft. NAVD88. The Project has no moveable spillway gates; all flow either passes through the powerhouse or over the fixed-crest spillway. The project's turbine hydraulic capacity is approximately 80 cfs. Exhibit A indicates that this discharge is exceeded on approximately 40 percent of days, at which times the reservoir must rise above the spillway crest to the elevation necessary to discharge the inflow.
2	Operational Compliance	The licensee should prepare, in consultation with the Wisconsin DNR, U.S. Fish and Wildlife Service (FWS) and Trout Unlimited (TU), a plan to document compliance with the operating rules for the project. The plan shall include, but not be limited to, measures to document inflow (cfs) to the project and project discharge (cfs); document the range of reservoir fluctuation and establish a ramping rate protocol for drawdowns. ROR operations should be maintained when sluicing trash through the sluice gate.	RFMU will continue to operate the Project in run-of-river mode. Project operation is described in the FLA Exhibit A, Section 1.3. RFMU maintains a staff gage for the Project, which is visible to the public. The Project operator checks the staff gage multiple times per day and adjusts the turbine settings with the objective of maintaining visible flow over the spillway crest. The wasteway is not utilized at the Project. Trash is removed from the intake grate manually. In fall, when leaf litter becomes excessive in the river, it is passed by allowing it to flow over the spillway crest
3	Water Quality Standards	To protect fish and other aquatic life from low dissolved oxygen levels and high-water temperature, the licensee should develop a plan, in consultation with the Wisconsin DNR and TU, to monitor dissolved oxygen, temperature and other parameters as deemed appropriate by the Wisconsin DNR and TU to ensure that the project is operated within State water quality standards. The	TU has been monitoring water quality in the Kinnickinnic River since 1992. RFMU will continue coordination with TU and discuss options for continued monitoring of water quality at the Project.

River Falls Hydroelectric Project FERC No. P-10489
 Exhibit E - Appendix E-1
 Response to DLA Comments

No.	Topic	Comment	Licensee Response
		<p>Wisconsin DNR categorizes the Kinnickinnic River as a <i>Class I Trout Stream</i> as it provides sustainable populations of naturally reproduced brown and brook trout. Accordingly, the project should be operated with the goal of sustaining water temperature and dissolved oxygen levels to protect the trout population in the river.</p>	
4	<p>Drawdown Management Plan</p>	<p>To protect small fish, mussels and other aquatic life from becoming stranded in the riverbed and exposed reservoir shoreline, the licensee should prepare, in consultation with the Wisconsin DNR and FWS, a drawdown management plan to be implemented for Lake George when there is a need for project routine dam maintenance or if an emergency occurs.</p>	<p>RFMU is not proposing to conduct a drawdown at Lake George. If a drawdown is necessary in the future, RFMU will develop a drawdown plan for FERC, Wisconsin DNR, and USFWS review and approval.</p>
5	<p>Aquatic and Terrestrial Invasive Species (A&TI) Monitoring Plan</p>	<p>The Licensee should develop, in consultation with the Wisconsin DNR, a plan to monitor aquatic and terrestrial invasive species (i.e., Curly-leaf pondweed, purple loosestrife) periodically over the period of the license. The licensee should survey for A&TI species at least biannually and implement control measures where practical to remove flora and fauna that are discovered early in their distribution to prevent them from becoming firmly established in Lake George.</p>	<p>While no “Prohibited” invasive species are currently located in the Project Boundary, RFMU will manage invasive species classified as “Prohibited” by Wisconsin’s invasive species rule, Wis. Admin. Code NR 40 if observed in the Project Boundary for the duration of the Project license.</p> <p>Curly-leaf pondweed and purple loosestrife are currently classified as “Restricted” invasive species, which means these species are considered to be widespread in Wisconsin and management is not required under NR 40.</p>
6	<p>Recreation</p>	<p>The licensee should prepare a <i>Recreation Plan</i> for the project. The licensee should maintain all recreational facilities (i.e., boat launches, fishing piers, trails, canoe portage) in good condition over the period of the license for use by the public. The licensee should develop a brochure showing the location of all recreational facilities. The licensee should install new recreational facilities over the period of the license on an as needed basis.</p>	<p>A Recreation Management Plan has been developed for the Project and is included in this FLA. This plan includes a map of recreational facilities associated with the Project and the City maintains recreation information on its website; therefore, a brochure is unnecessary.</p>

No.	Topic	Comment	Licensee Response
Wisconsin Department of Natural Resources, July 2, 2021			
1	Powell Falls	The DLA states that the licensee proposes to cease operation and decommission of the Powell Falls hydroelectric dam and pursue a license amendment to change the regulatory agency to the WDNR. If the license amendment is not approved prior to the submittal of the Final License Application (FLA), the licensee should provide detailed information regarding the status of the amendment application to remove Powell Falls from the current license.	RFMU filed a FERC Amendment Application on July 9, 2021, requesting approval to decommission the Powell Falls Development and remove the Powell Falls Development from the FERC license. FERC issued a Notice of Application for Amendment of License, Soliciting Comments, Motions to Intervene, and Protests on July 28, 2021; the deadline for filing comments, motions to intervene, and protests is August 27, 2021. This Amendment Application has not been approved by FERC as of the date of this FLA filing.
2	Surrender/Removal of Junction Falls	The City of River Falls (the City) passed a resolution to surrender and remove the Junction Falls Dam and have complete restoration completed between 2035 and 2040. The DLA requests a new license for Junction Falls with a license term of 40 years. Please provide additional information in the FLA detailing how and when the City will implement their resolution, confirm if the City's intent to have complete river restoration by 2040, provide economics detailing the costs associated with implementing the new license assuming complete river restoration by 2040, and economic details assuming the Junction Falls dam not removed prior to the end of the new 40-year term license. It is important for the NEPA process to evaluate the economics of the project under these two different scenarios. It is also important to provide this evaluation as part of stakeholder engagement and participation in the relicensing process.	RFMU's proposed action in the FLA is for relicensing the Junction Falls Development. 40 years is the current default license term. The City resolution is separate from the FERC license application. Financial information as required by the Commission's regulations are included in the FLA.
3	Dam Operations	Additional details are needed to understand the current operations of the dam. Please clarify the following statement <i>"When necessary, turbine adjustments are made in increments of approximately 5 kW every 15 minutes to smoothly redirect flows between the powerhouse and the spillway."</i>	Project operation is described in the FLA Exhibit A, Section 1.3 and Exhibit E, Section 3.1.4. RFMU added additional detail to these sections clarify current operations at the Project. FERC granted an Order Amending the Project Operation Plan on April 27, 1999. This Order outlines consultation with resource

No.	Topic	Comment	Licensee Response
		<ul style="list-style-type: none"> • “When necessary” is unclear. Please describe the process used to determine “when necessary”. • What is meant by “increments of 5kW”? Please provide details on gate openings, flows, volume, etc. • How does this correlate to run-of-river operations? <p><i>“In 1997 – 1999, the Licensee consulted with resource agencies to mitigate downstream flow fluctuations caused by unit outages for trashrack cleaning. As a result of this consultation, the 5 kW/15-minute ramping protocol was adopted.”</i></p> <ul style="list-style-type: none"> • Provide documentation and details on this statement. 	<p>agencies. https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=19990428-0460 Wisconsin DNR meeting summary regarding new ramping protocol (https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=19980304-0405) WDNR comments on operational protocol test period (https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=19981214-0535)</p>
4	Endangered Resources	<p>Please acknowledge both federal and state endangered species laws in the FLA. The Wisconsin endangered species laws must be complied with and are an extension of the federal endangered species laws.</p>	<p>Both federal and state endangered species laws are acknowledged in the FLA in Exhibit E Sections 2.2 & 5.6.1.</p>
5	Proposed Environmental Measures	<p>Provide more detail how the following license requirements are intended to [serve] as protection, mitigation, enhancement (PME), measures. Details should include documentation of compliance with these PME measures.</p> <ul style="list-style-type: none"> • Run-of-river operations (ROR): The WDNR does not recognize ROR as a “enhancement measure.” Please clearly document compliance with dam operations. • ROR operations as a “enhancement measure” for protection of water quality and aquatic resources is stated as a PME measure. ROR is not a PME measure. <p>Additionally, the City has not documented that the ROR operations is for the protection of water quality and aquatic resources. Please use caution when attempting to</p>	<p>RFMU includes run-of-river operation as a current and proposed PME measure. Alternatives to run-of-river operation include peaking or unmanaged flows, neither of which are proposed by RFMU. RFMU has been operating in accordance with the 1999 FERC License Order Amending the Project Operation Plan.</p> <p>RFMU has revised the Project Boundary in the FLA in response to FERC staff comments. The revised Project Boundary includes three recreational facilities (Lake George Boat Launch, Lake George Fishing Area, and recreation trail near the powerhouse) as described in the FLA Exhibit E Section 5.7 and the Recreation Management Plan located in Appendix E-4. These three recreation facilities support Project-specific recreation and are considered to be PME measures in the FLA. Adjacent parks and recreation</p>

No.	Topic	Comment	Licensee Response
		<p>correlate these various cause and effects, as the City has not clearly demonstrated that the impounded waters meet state water quality standards and are protective of aquatic resources. The data that has been provided indicates that the impounded water has poor water quality resulting in adverse impacts to aquatic resources.</p> <ul style="list-style-type: none"> Public lands as noted in the DLA are not considered PME by the WDNR. These lands are part of the City public lands/parks and would be open to public use regardless of license conditions. For the FLA please be specific on recreational areas that are solely a result of the current license, and those areas that are part of the City's parks/public access. The City proposes various PME measures identified in Section 3.3.4 of Exhibit E. Each item that is noted as a PME measure should clearly identify how the City will protect, mitigate, or enhance each item. There are areas of resource management that are missing from the list of PME's. Please consider including water quality, aquatic resources/plants, fishery of the impoundment, recreational use of the impoundment, and sediment/shoreline erosion. 	<p>facilities, owned and operated by the City of River Falls, but located outside of the Project Boundary, are not considered PME measures.</p> <p>A list of PME measures proposed by RFMU is included in Exhibit E Section 3.3.4. PMEs are further described under each resource in Exhibit E Section 5.0 Environmental Analysis (specifically in Sections 5.1.3 through 5.10.3 under "Proposed Environmental Measures"). RFMU has added water quality monitoring coordination with TU as a PME measure in the FLA. Management of "Prohibited" invasive species (aquatic or terrestrial) as required by NR 40 was included as a PME in the DLA and is also included in the FLA. Risk of entrainment or impingement at the turbine intake by fishes inhabiting Lake George is expected to be low (based on calculated intake velocity < 2'/second and observations from the Project operator) and fishery habitat is limited in the shallow impoundment, thus RFMU has not proposed a PME measure for fisheries. Continued operation of Project-specific recreation is included as a PME measure and further outlined in the Recreation Management Plan. The Lake George Boat Launch and Lake George Fishing Area both encourage recreational use of the impoundment. The shoreline survey (GSRC 2020) indicated that the Lake George shoreline is stable, thus RFMU has not proposed a PME measure for the sediment/shoreline erosion.</p>
6	Water Quality	<p>The DLA appears to be missing relevant water quality information. All available data from WDNR, River Alliance, and Trout Unlimited should be clearly tabulated in the FLA, with summary of data, and appropriate recommendations for improvement to water quality. Methodology for conducting and assessing water quality is outlined in the Wisconsin DNR Wisconsin Consolidated Assessment and Listing Methodology (WisCALM) documents. All</p>	<p>RFMU is not aware of missing relevant water quality information. Ayres Associates sent an email to Wisconsin DNR on behalf of the Licensee on July 21, 2021 requesting clarification. To date a response has not been received.</p> <p>The water quality analysis was based on the Project-specific water quality study conducted by Ayres Associates with study</p>

River Falls Hydroelectric Project FERC No. P-10489
 Exhibit E - Appendix E-1
 Response to DLA Comments

No.	Topic	Comment	Licensee Response
		<p>water quality data should be assessed using the latest WisCALM and applying the state coldwater standards.</p> <p>Some of the water quality data is noted as “suspect”. Please describe in detail the quality control/assurance procedures that were used for the water quality samples, and why the articulate why data is “suspect”. Additional water quality monitoring is necessary due to the “suspect” data highlighted, apparent exceedances of state water quality standards. The DLA should incorporate a water quality management plan that includes data collection, reporting, and PME measures. The WDNR encourages the City to work with Trout Unlimited and other stakeholders in the development of a water quality management plan.</p> <p>Algae cover was noted in the DLA. More information is necessary to understand frequency, duration, cause and effects.</p> <p>The DLA states <i>“Additional macroinvertebrate surveys conducted downstream of the Project in 2010, 2011, and 2013 suggest that the macroinvertebrate community and water quality conditions are representative of a healthy ecosystem, similar to survey results of the previous surveys.”</i> The WDNR has previously indicated that this data is old and is not appropriate to be used to make a current biological assessment of the river and impoundment. New macroinvertebrate [data] is needed above and below the project area, especially since water quality data indicates dissolved oxygen levels do not meet state standards.</p>	<p>methodology as outlined in the Revised Study Plan (RFMU 2019), FERC Study Plan Determination (FERC 2019), and Response to Stakeholder Comments on the Initial Study Report. Water quality data were assessed using the WisCALM and cold water standards were utilized. The FLA includes supplemental data from TU at the Project Inflow when Ayres instruments were lost in the June 29, 2020 flood.</p> <p>“Suspect” data were data that were recorded but appeared inconsistent with other monitoring stations and/or monitoring periods. In some cases they were associated with apparent public disturbance of the water quality instrumentation. The decision to include but flag these data is described in detail in the January 2021 final study report and additional detail has been added to Exhibit E Section 5.2.1.2 of the FLA.</p> <p>RFMU will continue to coordinate with TU regarding potential options for continued water quality monitoring at the Junction Falls Development.</p> <p>Table E-5.2-10 includes percent algae cover noted during site inspections conducted approximately every two weeks during the study periods in 2019 and 2020. May 29, 2020 is the only date that recorded no algae coverage, with algae persisting at least into September, when monitoring concluded.</p> <p>The Revised Study Plan for the River Falls Hydroelectric Project outlines study requests related to aquatic resources that were not adopted by the Licensee. Detailed descriptions of available macroinvertebrate and fisheries data are included in Section 5.3, highlighting the health of the macroinvertebrate and fishery communities in the Kinnickinnic River. FERC’s Study Plan</p>

River Falls Hydroelectric Project FERC No. P-10489
 Exhibit E - Appendix E-1
 Response to DLA Comments

No.	Topic	Comment	Licensee Response
7	Characterizations of the River	Throughout the DLA, the river is described in various sections. Please be sure to articulate that many of the statements describing the high quality of the river apply to the river as a whole and may not be representative of the conditions of the area within the proposed project boundary. Additionally, the text frequently mixes information without clarification on the purpose of a characteristic. As an example, habitat rating, water quality standards, and biological indexes, all have different purposes and meanings specific to the data that is being collected, and the protocols that are used for specific resource management. Please be sure to articulate these various types of data collections, their assessments, and ratings appropriately.	The FLA text has been revised to address this comment. The Project Boundary is primarily comprised of Lake George, with a limited riverine portion located downstream the dam. In general, descriptions of the Kinnickinnic River in the FLA are describing conditions above and below Lake George, as this area is described as an impoundment opposed to riverine.
8	Fishery Impacts	The DLA states that “ <i>Fish impingement or entrainment is a rare occurrence at the Project.</i> ” The WDNR does not have any information, nor has the City provided information to verify this statement. Please provide the information used for this statement or remove it from the FLA.	This statement is based on direct observations from the Project operator who has managed the Project since 2006 and rarely observes fish impingement or entrainment. The intake velocity at the Project is 0.8 feet/ second, which is low enough for most fish species to swim away from the intake. This information is located in Section 5.3.1 and Section 5.3.2 of the FLA.
9	Aquatic Invasive Species	The FLA should clearly articulate that 7 species of aquatic invasive plants (AIS) were documented in surveys. The FLA should also document that point intercept surveys to document native and	Inter-Fluve conducted an Aquatic Invasive Species Survey in Lake George in 2020 (Inter-Fluve 2020, https://elibrary.ferc.gov/elibrary/docinfo?accession_num=202101)

No.	Topic	Comment	Licensee Response
		<p>non-native/invasive plants were not conducted. Additionally, aquatic plant surveys may result in better information regarding species, density, and diversity, of aquatic plants, and options for management. The FLA should include an invasive species management plan as part of PME measures.</p> <p>Provide details on how data from 1996 macrophyte/rooted plant survey compares to current conditions, noting changes in species, diversity, and density.</p> <p>The DLA states <i>“The Lake George macroinvertebrate community likely consists of organisms typically found in lentic environments with fine substrates (e.g., midges, scuds, worms, and burrowing mayflies). Differences in lentic and lotic macroinvertebrate communities are well documented in scientific literature, and a survey of Lake George is not necessary to evaluate potential project effects on the macroinvertebrate community.”</i> Data is not available to support these statements. The FLA should either refrain from these types of statements or provide appropriate data to support the conclusions.</p>	<p>29-5114). This study was conducted in accordance with the Revised Study Plan and FERC Study Plan Determination. A total of 149 sample points were collected in Lake George. A total of five aquatic plant species were identified in Lake George (seven species were identified in Lake Louise downstream), only one of which, curly-leaf pondweed (<i>Potamogeton crispus</i>), is classified as a “Restricted” invasive species under NR 40. The other four aquatic species are native to Wisconsin.</p> <p>Invasive species (terrestrial and aquatic) currently present in the Project Boundary are classified as “Restricted” invasive species under NR 40, which means these species are widespread in Wisconsin and management is not required by NR 40. While no Prohibited invasive species are currently located in the Project Boundary, RFMU has committed to management of invasive species categorized as Prohibited by Wisconsin’s invasive species rule, Wis. Admin. Code NR 40 if observed in the Project Boundary in the future (see Section 5.5.3).</p> <p>Citations have been added to Exhibit E Section 5.3.2 to further clarify documented differences between riverine and lotic macroinvertebrate communities.</p>
Wisconsin State Historic Preservation Officer, April 24, 2021			
1	Cultural Resources	It is the opinion of the WI SHPO the proposed federal undertaking may proceed as planned. Please use this email as your official SHPO concurrence for the project.	Comment acknowledged

FEDERAL ENERGY REGULATORY COMMISSION
Washington, D. C. 20426
June 29, 2021

OFFICE OF ENERGY PROJECTS

Project No. 10489-016 – Wisconsin
River Falls Hydroelectric Project
City of River Falls Municipal Utilities

VIA FERC Service

Kevin Westhuis, Utility Director
City of River Falls Municipal Utilities
222 Lewis Street
River Falls, Wisconsin 54022

**Subject: Staff Comments on Draft License Application for the River Falls
Hydroelectric Project**

Dear Mr. Westhuis:

On April 1, 2021, the City of River Falls Municipal Utilities (City of River Falls) filed a draft license application (DLA) for the River Falls Hydroelectric Project No. 10489. Pursuant to 18 CFR § 5.16(e), this letter contains staff comments on the DLA.

In general, the DLA describes the proposed project facilities and operations, and provides an analysis of the anticipated effects of proposed project operation. In some instances, however, the description and analysis of the City of River Falls' proposal lacks sufficient detail for Commission staff to conduct its environmental analysis. Specific comments on the DLA are discussed in Schedule A, and we request that the City of River Falls address these comments in the final license application (FLA), due to be filed on or before August 31, 2021. Additionally, when the City of River Falls files its FLA, it must present the results of its studies, pursuant to section 5.18(b)(5)(ii)(B), and cite all materials referenced, including all final study reports, pursuant to section 5.18(b)(5)(ii)(H).

If you have any questions, please contact Shana Wiseman at shana.wiseman@ferc.gov or at (202) 502-8736.

Sincerely,

Janet Hutzal, Chief
Midwest Branch
Division of Hydropower Licensing

Enclosures: Schedule A

SCHEDULE A
Comments on Draft License Application

Initial Statement

1. Page IS-1 states that City of River Falls Municipal Utilities (City of River Falls) is applying for a new license for River Falls Hydroelectric Project, an existing licensed minor project. Because the project is licensed as a minor project, please indicate in the final license application (FLA) that you are applying for a subsequent license.
2. Page IS-6 identifies the City of Hastings, Wisconsin, as having a population of 5,000 or more people and is located within 15 miles of the project dam. Because the City of Hastings is a jurisdiction in Minnesota, in the FLA, please include the City of Hastings, Minnesota, as a municipality having a population of 5,000 or more people and is located within 15 miles of the project dam.

Exhibit A

3. Section 1.1, *Generating Units*, states that the generator has a voltage of 2,300 volts, which is in agreement with nameplate provided in Photo E-1.1-1: Project Nameplates. However, throughout Exhibit A, the generator is described as having a voltage of 2,400 volts. Please provide a consistent generator voltage in the FLA, which includes Exhibit A, Exhibit E, Exhibit F, and Exhibit G.
4. Section 1.3, *Plant Operation*, states the wasteway is not normally used to pass either normal or flood flows. In the FLA, please describe the wasteway, its operation, and the original, present, and proposed use of the wasteway.
5. Table A-1.8-1, *Junction Falls Development Information Summary*, states that the gross storage capacity is not applicable for run-of river project operation. If known, in the FLA, please include the gross storage capacity, which is the storage capacity below the spillway crest of the reservoir.
6. Figure A-8.0-1, *Single-Line Diagram for the Junction Falls Development*, provides the following information that is inconsistent with other sections of Exhibit A. These inconsistencies include:
 - (a) The lead from the 250 kilowatt (kW) generator is identified as 2.4 kilovolt-amperes (kVA). Section 1.1, *Generating Units*, states that the generator is rated at 312 kVA.
 - (b) “OCB” is identified as 400 amp – 5 kilovolt (kV). However, Exhibit A provides the generator voltage as either 2.3 kV or 2.4 kV.
 - (c) The bus is identified as 2,400 volt. Section 1.1, *Generating Units*, states that the generator has a voltage of 2,300 volts.

(d) The Howard step-up transformer is identified as 500 kVA / 12,470 / 4,160. However, section 1.1, *Generating Units*, states the 500 kVA Howard step-up transformer transforms energy at 2,400 volts to 12,470 volts.

In the FLA, please either revise the apparent inconsistencies in the above four items or explain why the above four items are not inconsistent.

Exhibit E

Project Boundary

7. Section 3.1.2, *Project Boundary*, states that the project boundary includes land and water up to elevation 865.6 feet North American Vertical Datum of 1988 (NAVD88)¹ to account for the 100-year flood. However, section 4.41(h)(2)(i)(B) of the Commission's regulations require that the exterior margin of the reservoir be defined by the normal maximum surface elevation. In the FLA, please explain why the proposed project boundary would include lands to account for the 100-year flood. If these lands are not needed for project purpose (i.e. project operation or maintenance), please modify the proposed project boundary to include those lands necessary for project purpose, including recreation facilities.

8. Section 4.41(h)(2)(i)(B) of the Commission's regulations require that the project boundary only enclose those lands necessary for operation and maintenance of the project and other project purposes. Figure E-3.1-1 shows the power plant and associated lands that do not appear to be necessary for operation and maintenance of the project and other project purposes. In the FLA, please explain why the power plant and associated lands are necessary for operation and maintenance of the project or other project purposes. If these lands are removed from the project boundary, ensure that access to the project is included in the project boundary.

9. Figure E-3.1-1 shows the project boundary to enclose the interconnection line to the Howard step-up transformer. However, it is not clear why the 120-foot-long, 12.4 kV interconnection line from the Howard step-up transformer to the substation is not included in the project boundary. In the FLA, please describe the non-project use of the 120-foot-long 12.4 kV interconnection line, as shown on Exhibit G, sheet 1. If the 120-foot-long, 12.4 kV interconnection line has no non-project use, in the FLA, please include this interconnection line in the project boundary.

Current and Proposed Actions and Alternatives

10. Section 3.1.4, *Existing Project Operations*, states to mitigate downstream flow fluctuations caused by unit outages for trashrack cleaning, the City of River Falls adopted

¹ Exhibit A identifies the normal pool to be the spillway crest elevation of 865.6 feet NAVD88.

a 5 kW per 15 minute ramping protocol. However, section 3.1.5, which identifies current protection, mitigation and enhancement (PM&E) measures, does not include the 5 kW per 15 minute ramping protocol. In the FLA, please either include the 5 kW per 15 minute ramping protocol as a current protection, mitigation, or enhancement (PM&E) measure or provide an explanation as to why the 5 kW per 15 minute ramping protocol is not a current PM&E measure.

11. Section 3.3.4, *Proposed Environmental Measures*, does not include the current 5 kW per 15 minute ramping protocol to mitigate downstream flow fluctuations caused by unit outages for trashrack cleaning. In the FLA, please state whether you propose to continue implementing the ramping protocol.

12. Section 3.3.4, *Proposed Environmental Measures*, includes development of a recreation management plan and a historic properties management plan as proposed PM&E measures. However, section 3.3.4 does not state whether the City of River Falls proposes to implement these plans. In the FLA, please state whether implementation of these plans is a proposed environmental measure and provide the operation and maintenance costs.

Geological and Soil Resources

13. Figure E-5.1-2 shows the major landscape features of Wisconsin. However, there is no description in the text or legend that explains the numbering provided in the figure. As provided in the draft license application (DLA), there is insufficient information to understand the major landscape features shown in figure E-5.1-2. Therefore, in the FLA, please describe the numbering provided in figure E-5.1-2 necessary to convey an understanding of the major landscape features of Wisconsin. As shown in figure E-5.1-1, *Laurentide Ice Sheet in Wisconsin*, please indicate the project location in figure E-5.1-2.

14. Figure E-5.1-3, *Bedrock Geology of Wisconsin*, shows the bedrock geology and provides a legend that provides an explanation of the geologic features. However, the majority of text in this figure is pixelated and indistinct. Therefore, in the FLA, please ensure all text is legible. As shown in figure E-5.1-1, *Laurentide Ice Sheet in Wisconsin*, please indicate the project location in figure E-5.1-3.

15. Section 5.1.2, Environmental Analysis, states that the June 2020 flood event rearranged some sediments in Lake George and also the Kinnickinnic River downstream. This section concludes by stating that continued operation of the project would not adversely affect geological and soil resources within or downstream of the project. However, the DLA did not describe the information and analysis that led the City of River Falls to the conclusion that continued operation of the project would not adversely affect geological and soil resources within or downstream of the project. Therefore, in the FLA, please describe how the City of River Falls came to the conclusion that continued operation of the project would not adversely affect geological and soil

resources within or downstream of the project, which would include the decommissioned Powell's Falls Development. Please provide any supporting information used to reach the conclusion of continued project operation would have no adverse effect to geological and soil resources within or downstream of the project.

Developmental Resources

16. Section 5.11.2, *Costs and Value of PME Measures Affecting Non-Developmental Resources*, presents costs for three of the five PM&E measures presented in section 3.3.4, *Proposed Environmental Measures*. No cost was provided for continued run-of-river operation or continued operation and maintenance of recreation sites surrounding Lake George. In the FLA, please include the cost for all proposed environmental measures, both development and implementation, even if they have a zero dollar cost. Additionally, please clarify if cost to operate and maintain the project recreation sites is included in the \$60,645 cost estimate provided in section 7.0, *Annual Operations and Maintenance Expenses*, of the DLA.

17. Section 5.11.2, *Cost and Value of PME Measures Affecting Non-Developmental Resources*, of the DLA states that the associated costs of preparing the Historic Properties Management Plan and the draft Recreation Management Plan are included with the total license application development costs estimated to be a total of \$14,000. It is unclear what the separate cost estimate is for each plan independent of the total cost to develop the license application. Please provide a capital cost for the draft Recreation Management Plan and the Historic Properties Management Plan in the FLA.

Recreation and Land Use Resources

18. Section 4.2 of the *Draft Recreation Management Plan* provided in Appendix E-4 states that recreation use monitoring would occur concurrently with the City of River Falls Comprehensive Plan review and the plan would be updated to include the monitoring results. The plan further states that if the monitoring results suggest changes are necessary to meet demand at the project, any proposed modification to the Recreation Management Plan would be submitted to the appropriate agencies for review and comment prior to submittal to the Commission. However, it is not clear when the City of River Falls Comprehensive Plan gets reviewed nor how often. Further, the plan does not identify the appropriate agencies referenced in the plan. Please specify when recreation use monitoring would occur over the term of any subsequent license and identify the appropriate agencies referenced in the draft Recreation Management Plan in the FLA.

Exhibit F

19. Exhibit F-2, *Site Overview map*, does not show the location of the wasteway. In the FLA, please show the location and extent of the wasteway in Exhibit F-2.

Exhibit G

20. Sheet 1, *Project Boundary Map*, shows the 120-foot-long interconnection line from the Howard step-up transformer to substation as 12.4 kV. However, the single-line diagram and section 1.1 states the stepped up voltage to be 12.47 kV. In the FLA, please provide a consistent voltage for the 120-foot-long interconnection line.

21. Section 4.41(h)(4) of the Commission's regulations require that all non-federal lands owned or to be acquired in fee by the applicant, and non-federal lands over which the applicant has acquired or plans to acquire the rights to occupy and use other than fee title, including the right to be acquired by easement or lease must be identified. Therefore, in the FLA, please include the required information on Exhibit G.



United States Department of the Interior

NATIONAL PARK SERVICE

Interior Regions 3, 4, 5
601 Riverfront Drive
Omaha, NE 68102



June 15, 2021

Mr. Kevin Westhuis, Utility Director
City of River Falls Municipal Utilities
222 Lewis Street
River Falls, WI 54022

Subject: National Park Service Comments on the Draft License Application for the River Falls Hydroelectric Project, Kinnickinnic River, Pierce County, WI, Federal Energy Regulatory Commission Project Number P-10489

Dear Secretary Bose:

The National Park Service respectfully submits the following comments in response to the River Falls Municipal Utilities April 1, 2021 filing of its River Falls Hydroelectric Project Draft License Application (DLA) with the Federal Energy Regulatory Commission (FERC).

Background

The National Park Service (NPS), through its Hydropower Assistance Program, has participated in the relicensing process since its inception with filing of the Pre-Application Document (PAD) on August 30, 2018, and recommended several recreation studies. We have reviewed the Updated Study Report dated January 29, 2021, including the Recreation Use Assessment Summary Report dated December 2020, and the Draft License Application (DLA) dated April 1, 2021. We make the following comments and recommendations pursuant to section 10(a) of the Federal Power Act, Public Law 88-29, the Outdoor Recreation Act, and the National Wild and Scenic Rivers Act (section 11(b)).

Comments

Recreation Facilities

The Recreation Use Assessment in the Study Report includes both project developments, Junction Falls and Powell Falls, and provides data for individual access points, parks and trails as well as generalized comments for both developments. The Powell Falls project, severely damaged in the 2020 flood, is proposed to be decommissioned, removed from the FERC process, and dam removed through the State of Wisconsin dam removal and permitting process.

The Recreation Use Assessment results indicate that most respondents of the recreation user survey were content with recreation in the Project Area, confirming the City of River Falls capability in managing

INTERIOR REGION 3, 4, 5 – GREAT LAKES, MISSISSIPPI BASIN, MISSOURI BASIN

ARKANSAS, ILLINOIS, INDIANA, IOWA, KANSAS, MICHIGAN, MINNESOTA, MISSOURI,
NEBRASKA, NORTH DAKOTA, OHIO, SOUTH DAKOTA, WISCONSIN

recreation facilities. It's unclear, however, to which development the general survey response recommending improved accessibility for "old, young, and disabled" applies, Junction Falls, Powell Falls, or both. In addition, a complaint common to the White Kinnickinnic Pathway and to both projects in general summary was the lack/condition of restrooms; a below average score was given for restroom condition for the White Kinnickinnic Pathway. We recommend the Applicant include in its Final License Application (FLA) an ADA compliant restroom along the White Kinnickinnic Pathway.

Aesthetic Flows

The recreation user survey was revised in March 2020 to include the NPS recommendation that the survey instrument included subjective questions regarding satisfaction with views, including flows, of the Junction Falls spillway from Glen Park located downstream of the dam. Survey respondents expressed "moderately satisfied" to "extremely satisfied". Hence, we refrain from making further recommendations regarding spillway aesthetic flows.

Recreation Management Plan

The Draft Recreation Management Plan (RMP) states that the Licensee will monitor the five public recreation sites periodically over the term of the new Project License and that it will occur concurrently with the City of River Falls Comprehensive Plan review. The plan states that updates of the Project RMP will include results of recreation use monitoring and make proposed changes to the public recreation sites that use monitoring indicates are necessary to meet demand. Please include in the FLA the frequency these reviews will occur; we recommend also including a recreation facility condition assessment at the same time use monitoring occurs.

Conclusion

Thank you for considering the recommendations of the National Park Service. Should you have any questions or comments, please contact Susan Rosebrough, Hydropower Recreation Assistance Team Lead, at susan_rosebrough@nps.gov.

Sincerely,

David J. Thomson,
Program Manager,
Rivers, Trails & Conservation Assistance and Accessibility Programs



June 30, 2021

Mr. Kevin Westhuis, Utility Director
City of River Falls Municipal Utilities
222 Lewis Street
River Falls, Wisconsin 54022

Re: Review of draft Application for License, River Falls (Junction Falls) Hydroelectric (hydro) Project, FERC No. P-10489, Kinnickinnic River, St. Croix and Pierce Counties, Wisconsin

Dear Mr. Westhuis,

Background

To satisfy obligations under sections 4(e) and 10(a) of the Federal Power Act, as amended, and Electric Consumers Protection Act, among other legislation, the FERC must give equal consideration to developmental and environmental interests when issuing a new license. Further, when making licensing decisions, the FERC is required to develop measures for the protection of environmental resources and enhancement of recreational facilities to ensure that relicensing is accomplished in the best interest of the general public as well as the Applicant. The FERC licensing process for hydro projects is a public process. The RAW participates in hydro relicensing proceedings as a Non-Governmental Organization. The RAW is a non-profit organization consisting of many stakeholder groups and concerned citizens statewide. Further, through the relicensing process the RAW advocates for river restoration, protection, and enhancement of fish and wildlife species and the habitats upon which they depend, and enhancement of recreational resources at the project within and contiguous to the project boundary. The RAW has a long history of participating in relicensing projects in Wisconsin and the Upper Peninsula of Michigan.

Comments on the Application for License

The River Alliance of Wisconsin (RAW) has reviewed the referenced *Application for License* (AL) for the referenced hydro project and herewith provides comments on it. It is very beneficial that the abundant environmental information collected during the study phase of relicensing will serve to update the condition of environmental resources present in the project area of the Kinnickinnic River and will help the Wisconsin DNR manage those aquatic and terrestrial resources. When the final AL is completed and the FERC notices it READY FOR ENVIRONMENTAL ANALYSIS, we will submit to the Commission recommended terms and conditions (T&C) for inclusion in the new license. Recommendations (T&C) that we anticipate submitting as proposed protection, mitigation, or enhancement measures are discussed below for your consideration when preparing the final AL. However, they are not necessarily all inclusive.

1. Project Operation. To protect fish and other aquatic life from unnatural fluctuating discharge flows released from the project, the licensee should operate the Junction Falls Hydro Project in a run-of-river (ROR) mode such that instantaneous inflow closely approximates project outflow. The reservoir should be operated within a range of plus or minus three inches from a set target elevation.

2. Operational Compliance. The licensee should prepare, in consultation with the Wisconsin DNR, U.S. Fish and Wildlife Service (FWS) and Trout Unlimited (TU), a plan to document compliance with the operating rules for the project. The plan shall include, but not be limited to, measures to document inflow (cfs) to the project and project discharge (cfs); document the range of reservoir fluctuation and establish a ramping rate protocol for drawdowns. ROR operations should be maintained when sluicing trash through the sluice gate.

3. Water quality standards. To protect fish and other aquatic life from low dissolved oxygen levels and high-water temperature, the licensee should develop a plan, in consultation with the Wisconsin DNR and TU, to monitor dissolved oxygen, temperature and other parameters as deemed appropriate by the Wisconsin DNR and TU to ensure that the project is operated within State water quality standards. The Wisconsin DNR categorizes the Kinnickinnic River as a *Class I Trout Stream* as it provides sustainable populations of naturally reproduced brown and brook trout. Accordingly, the project should be operated with the goal of sustaining water temperature and dissolved oxygen levels to protect the trout population in the river.

4. Drawdown Management Plan. To protect small fish, mussels and other aquatic life from becoming stranded in the riverbed and exposed reservoir shoreline, the licensee should prepare, in consultation with the Wisconsin DNR and FWS, a drawdown management plan to be implemented for Lake George when there is a need for project routine dam maintenance or if an emergency occurs.

5. Aquatic and terrestrial invasive species (A&TI) monitoring plan. The Licensee should develop, in consultation with the Wisconsin DNR, a plan to monitor aquatic and terrestrial invasive species (i.e., Curly-leaf pondweed, purple loosestrife) periodically over the period of the license. The licensee should survey for A&TI species at least biannually and implement control measures where practical to remove flora and fauna that are discovered early in their distribution to prevent them from becoming firmly established in Lake George.

6. Recreation. The licensee should prepare a *Recreation Plan* for the project. The licensee should maintain all recreational facilities (i.e., boat launches, fishing piers, trails, canoe portage) in good condition over the period of the license for use by the public. The licensee should develop a brochure

showing the location of all recreational facilities. The licensee should install new recreational facilities over the period of the license on an as needed basis.

If you have any questions, please contact me at awerner@wisconsinrivers.org or our hydro Consultant, Jim Fossum at jfbio@yahoo.com.

Sincerely,

A handwritten signature in cursive script that reads "Allison Werner".

Allison Werner

Executive Director

River Alliance of Wisconsin

Cc: Kimberly Bose, Secretary, Federal Energy Regulatory Commission, Washington D.C.

Nick Utrup, U.S. Fish and Wildlife Service, Bloomington, MN

Chery Laatch, Wisconsin DNR, Horicon, WI

Dave Thomson, National Park Service, Omaha, NE

Dr. Michael Page, Friends of the Kinni, River Falls, WI

Gary Horvath, Trout Unlimited, River Falls, WI

Charlene Brooks, Kinnickinnic River Land Trust, River Falls, WI

Lesley Brotkowski, Consultant, TRC, Brookfield, WI

James Fossum, *JDFossum Environmental Consulting*, Winona, MN



July 2, 2021

Federal Energy Regulatory Commission
Kimberly D. Bose, Secretary
888 First Street, N.E.
Washington, DC 20426

**Re: Wisconsin Department of Natural Resources Response to River Falls Hydroelectric Project, FERC No. P-10489
Draft License Application**

Dear Secretary Bose:

The Wisconsin Department of Natural Resources (WDNR) has reviewed the Draft License Application (DLA) for the River Falls Hydroelectric Project (P-10489) located on the Kinnickinnic River in Pierce County, Wisconsin and offers the following comments.

Comments Specific to Powell Falls:

The DLA states that the licensee proposes to cease operation and decommission of the Powell Falls hydroelectric dam and pursue a license amendment to change the regulatory agency to the WDNR. If the license amendment is not approved prior to the submittal of the Final License Application (FLA), the licensee should provide detailed information regarding the status of the amendment application to remove Powell Falls from the current license.

Comments Specific to Surrender/Removal of Junction Falls:

The City of River Falls (the City) passed a resolution to surrender and remove the Junction Falls Dam and have complete restoration completed between 2035 and 2040. The DLA requests a new license for Junction Falls with a license term of 40 years. Please provide additional information in the FLA detailing how and when the City will implement their resolution, confirm if the City's intent to have complete river restoration by 2040, provide economics detailing the costs associated with implementing the new license assuming complete river restoration by 2040, and economic details assuming the Junction Falls dam not removed prior to the end of the new 40-year term license. It is important for the NEPA process to evaluate the economics of the project under these two different scenarios. It is also important to provide this evaluation as part of stakeholder engagement and participation in the relicensing process.

Dam Operations:

Additional details are needed to understand the current operations of the dam. Please clarify the following statement *"When necessary, turbine adjustments are made in increments of approximately 5 kW every 15 minutes to smoothly redirect flows between the powerhouse and the spillway."*

- "When necessary" is unclear. Please describe the process used to determine "when necessary".
- What is meant by "increments of 5kW"? Please provide details on gate openings, flows, volume, etc.
- How does this correlate to run-of-river operations?

“In 1997 - 1999, the Licensee consulted with resource agencies to mitigate downstream flow fluctuations caused by unit outages for trashrack cleaning. As a result of this consultation, the 5 kW/15 minute ramping protocol was adopted.”

- Provide documentation and details on this statement.

Endangered Resources:

Please acknowledge both federal and state endangered species laws in the FLA. The Wisconsin endangered species laws must be complied with and are an extension of the federal endangered species laws.

Proposed Environmental Measures:

Provide more detail how the following license requirements are intended to as protection, mitigation, enhancement (PME), measures. Details should include documentation of compliance with these PME measures.

- Run-of-river operations: The WDNR does not recognize ROR as a “enhancement measure”. Please clearly document compliance with dam operations.
- ROR operations as a “enhancement measure” for protection of water quality and aquatic resources is stated as a PME measure. ROR is not a PME measure. Additionally, the City has not documented that the ROR operations is for the protection of water quality and aquatic resources. Please use caution when attempting to correlate these various cause and effects, as the City has not clearly demonstrated that the impounded waters meet state water quality standards and are protective of aquatic resources. The data that has been provided indicates that the impounded water has poor water quality resulting in adverse impacts to aquatic resources.
- Public lands as noted in the DLA are not considered PME by the WDNR. These lands are part of the City public lands/parks and would be open to public use regardless of license conditions. For the FLA please be specific on recreational areas that are solely a result of the current license, and those areas that are part of the City’s parks/public access.
- The City proposes various PME measures identified in Section 3.3.4 of Exhibit E. Each item that is noted as a PME measure should clearly identify how the City will protect, mitigate, or enhance each item. There are areas of resource management that are missing from the list of PME’s. Please consider including water quality, aquatic resources/plants, fishery of the impoundment, recreational use of the impoundment, and sediment/shoreline erosion.

Water Quality:

The DLA appears to be missing relevant water quality information. All available data from WDNR, River Alliance, and Trout Unlimited should be clearly tabulated in the FLA, with summary of data, and appropriate recommendations for improvement to water quality.

Methodology for conducting and assessing water quality is outlined in the Wisconsin DNR Wisconsin Consolidated Assessment and Listing Methodology (WisCALM) documents. All water quality data should be assessed using the latest WisCALM and applying the state coldwater standards.

Some of the water quality data is noted as “suspect”. Please describe in detail the quality control/assurance procedures that were used for the water quality samples, and why the articulate why data is “suspect”. Additional water quality monitoring is necessary due to the “suspect” data highlighted, apparent exceedances of state water quality standards. The DLA should incorporate a water quality management plan that includes data collection, reporting, and PME measures. The WDNR encourages the City to work with Trout Unlimited and other stakeholders in the development of a water quality management plan.

Algae cover was noted in the DLA. More information is necessary to understand frequency, duration, cause and effects.

The DLA states *“Additional macroinvertebrate surveys conducted downstream of the Project in 2010, 2011, and 2013 suggest that the macroinvertebrate community and water quality conditions are representative of a healthy ecosystem,*

similar to survey results of the previous surveys.” The WDNR has previously indicated that this data is old and is not appropriate to be used to make a current biological assessment of the river and impoundment. New macroinvertebrate is needed above and below the project area, especially since water quality data indicates dissolved oxygen levels do not meet state standards.

Characterization of the River:

Throughout the DLA, the river is described in various sections. Please be sure to articulate that many of the statements describing the high quality of the river apply to the river as a whole and may not be representative of the conditions of the area within the proposed project boundary. Additionally, the text frequently mixes information without clarification on the purpose of a characteristic. As an example, habitat rating, water quality standards, and biological indexes, all have different purposes and meanings specific to the data that is being collected, and the protocols that are used for specific resource management. Please be sure to articulate these various types of data collections, their assessments, and ratings appropriately.

Fishery Impacts:

The DLA states that *“Fish impingement or entrainment is a rare occurrence at the Project.”* The WDNR does not have any information, nor has the City provided information to verify this statement. Please provide the information used for this statement or remove it from the FLA.

Aquatic Invasive Species:

The FLA should clearly articulate that 7 species of aquatic invasive plants (AIS) were documented in surveys. The FLA should also document that point intercept surveys to document native and non-native/invasive plants were not conducted. Additionally, aquatic plant surveys may result in better information regarding species, density, and diversity, of aquatic plants, and options for management. The FLA should include an invasive species management plan as part of PME measures.

Provide details on how data from 1996 macrophyte/rooted plant survey compares to current conditions, noting changes in species, diversity, and density.

The DLA states *“The Lake George macroinvertebrate community likely consists of organisms typically found in lentic environments with fine substrates (e.g., midges, scuds, worms, and burrowing mayflies). Differences in lentic and lotic macroinvertebrate communities are well documented in scientific literature, and a survey of Lake George is not necessary to evaluate potential project effects on the macroinvertebrate community.”* Data is not available to support these statements. The FLA should either refrain from these types of statements or provide appropriate data to support the conclusions.

Conclusion:

The WDNR will continue to work with the City and interested stakeholders through the licensing process. We are appreciative of the efforts of all the parties to move this project through the licensing process. If you have any questions, or would like to discuss our comments, please contact me at cheryl.laatsch@wisconsin.gov.

Regards,
Cheryl Laatsch, FERC Coordinator
Wisconsin Department of Natural Resources.

From: tyler.howe@wisconsinhistory.org
To: [Brotkowski, Lesley](#)
Subject: [EXTERNAL] SHPO Review: 13-0908/PI - FERC No. 10489 - River Falls Hydro
Date: Tuesday, April 27, 2021 4:38:04 PM

This is an **EXTERNAL** email. Do not click links or open attachments unless you validate the sender and know the content is safe.

Good afternoon Lesley:

We have completed our review of WHS #13-0908, River Falls Hydro and find that no eligible properties will be affected (i.e. none are present or there are historic properties present but the project will have no effect upon them).

As such, it is the opinion of the WI SHPO the proposed federal undertaking may proceed as planned. If your plans change or cultural materials/human remains are found during the project, please halt all work and contact our office.

Please use this email as your official SHPO concurrence for the project. If you require a hard copy signed form, please contact me and I will provide you a signed copy as soon as possible.

All the best,

Tyler

Tyler B. Howe, PhD
State Archaeologist
Compliance Section Manager
State Historic Preservation Office

Wisconsin Historical Society
816 State Street, Madison, WI 53706

tyler.howe@wisconsinhistory.org

Wisconsin Historical Society
[Collecting, Preserving, and Sharing Stories Since 1846](#)

**Exhibit E – Appendix E-1
River Falls Correspondence Record**

Date	From	To	Description
10/13/2017	FERC	Sisseton-Wahpeton Oyate of the Lake Traverse Reservation, South Dakota, Lac du Flambeau Band of the Lake Superior Chippewa Indians of the Lac du Flambeau Reservation of Wisconsin, Kickapoo Tribe of Oklahoma, Miami Tribe of Oklahoma, Flandreau Santee Sioux Tribe of South Dakota, Lower Sioux Indian Community in the State of Minnesota, Prairie Island Indian Community in the State of Minnesota, Lower Sioux Indian Community in the State of Minnesota, Santee Sioux Nation, Nebraska, Spirit Lake Tribe, North Dakota, Upper Sioux Community of Minnesota, Fort Belknap Indian Community of the Fort Belknap Reservation of Montana, Menominee Indian Tribe of Wisconsin, Wahpeton Oyate of the Lake Traverse Reservation, South Dakota,	FERC issued a letter initiating Tribal consultation for the relicensing process for the Project.
6/27/2018	RFMU	Wisconsin Department of Natural Resources (DNR), National Park Service (NPS), U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), Wisconsin State Historic Preservation Office (SHPO)	PAD Information Questionnaire was sent to provide notification of the upcoming proceeding and request assistance in identifying existing relevant and reasonably available information.
8/30/2018	RFMU	FERC Project Distribution List	Submits the Notice of Intent to File License Application (NOI) and Pre-Application Document (PAD) for the River Falls Hydroelectric Project
8/31/2018	RFMU	Wisconsin SHPO	Submits request for Wisconsin SHPO comment and consultation on PAD and NOI
9/12/2018	Wisconsin SHPO	RFMU	Comments on PAD and NOI

Date	From	To	Description
10/25/2018	FERC	RFMU Mailing List Public Files	Scoping Document 1 for the River Falls Hydroelectric Project
11/15/2018 & 11/16/2018	FERC	Meeting open to the public	Scoping Meeting and site visit held in River Falls, WI
12/11/2018	RFMU	FERC	Submits cultural resource survey reports
12/14/2018	Wisconsin DNR	FERC RFMU	Submits study requests and comments on the PAD and SD1
12/26/2018	FERC	RFMU	Submits letter to RFMU regarding comments on preliminary study plans, request for studies, and additional information
12/26/2018	National Park Service	FERC	Comments on PAD, SD1 and study requests
12/27/2018	American Whitewater	FERC	Comments on PAD, SD1 and study requests
12/28/2018	Judie Babcock	FERC	Comments on the PAD and SD1
12/28/2018	Friends of the Kinni	FERC RFMU	Submits study requests
12/28/2018	Friends of the Kinni	FERC RFMU	Petition requesting surrender of FERC license, decommissioning and removal of both dams
12/28/2018	Friends of the Kinni	FERC RFMU	Comments on the NOI, PAD, SD1 and associated study requests
12/28/2018	Patricia La Rue	FERC	Comments on the SD1
12/28/2018	Kinnickinnic River Land Trust	FERC	Comments on PAD and SD1 and study requests
12/28/2018	Trout Unlimited	FERC	Comments on the SD1 and PAD
12/28/2018	Dr. Michael Page	FERC	Comments on the NOI, PAD and SD1

Date	From	To	Description
11/2018 – 1/2019	Individuals	FERC	Several individuals filed comments with FERC between November 2018 and January 2019. Most comments called for the removal of the Junction Falls dam and Powell Falls dam and river restoration; some of the pro-dam removal letters also called for a Lake George reconfiguration plan and dredging, automated gates, installation of portages, and restoration of flows to the dewatered stretch below the dam if relicensed. Comments were also received in support of keeping the dams and relicensing the Project.
01/02/2019	FERC	RFMU Mailing List Public Files	Scoping Meeting transcript was filed with FERC and sent to distribution list
01/02/2019	River Alliance of Wisconsin	FERC	Comments on the SD1
01/02/2019	United States Environmental Protection Agency (USEPA)	FERC	Comments on SD1
02/7/2019	FERC	RFMU Mailing List Public Files	Scoping Document 2 (SD2) for the River Falls Hydroelectric Project
02/11/2019	RFMU	FERC Project Distribution List	Proposed Study Plan (PSP) filed with FERC and sent to distribution list
02/12/2019	RFMU	Wisconsin SHPO	Request for Wisconsin SHPO comment on PSP
03/13/2019	RFMU	FERC Project Distribution List Meeting open to the public	PSP Meeting held in River Falls, WI
03/14/2019	Wisconsin SHPO	RFMU	Comments on PSP

Date	From	To	Description
04/10/2019	RMFU	FERC Wisconsin SHPO	Call to discuss the proposed cultural resource study methodology
04/23/2019	RMFU	FERC Wisconsin DNR Trout Unlimited	Follow-up discussion on proposed studies
05/8/2019	FERC	RFMU	Staff comments on PSP
05/10/2021	Wisconsin DNR	FERC	Comments on PSP
05/12/2019	Kinnickinnic River Land Trust	FERC RFMU	Comments on SD2 and study requests
05/13/2019	Trout Unlimited	FERC RFMU	Comments on the PSP
05/22/2019	Robert Chambers	FERC	Motion to Intervene
05/24/2019	Lesley Brotkowski (TRC)	Nick Utrup (USFWS)	Phone call to discuss Revised Study Plan (RSP) and potential need for mussel study.
06/5/2019	Michael Davis (FERC) Shana Weisman (FERC)	Lesley Brotkowski (TRC)	Parties discussed FERC's correspondence with Wisconsin SHPO concerning a meeting with the Commission and the Licensee. Michael and Shana explained that the Commission could not participate in the meeting if it occurred after the Revised Study Plan was filed. Telephone memo was filed with FERC.
06/5/2019	Nick Ettema (FERC)	FERC Lesley Brotkowski (TRC)	Communication Memorandum was filed with FERC. Memorandum discussed phone and e-mail communication with Lesley Brotkowski regarding clarification of staff comments on the PSP.
06/6/2019	Michael Davis (FERC) Janet Hutzel (FERC)	Lesley Brotkowski (TRC) Kimberly Cook (SHPO)	Telephone memo was filed with FERC. Parties discussed separating the proposed area of potential effect (APE) into two separate APE's.

Date	From	To	Description
	Shana Wiseman (FERC)		
06/11/2019	RFMU	FERC Project Distribution List	Revised Study Plan (RSP) filed with FERC and sent to distribution list
6/11/2019	RFMU	Wisconsin SHPO	Request for Wisconsin SHPO comment on RSP
06/26/2019	Wisconsin DNR	FERC RFMU	Comments on RSP
06/26/2019	Trout Unlimited	FERC RFMU	Comments on RSP
06/27/2019	Friends of the Kinni	FERC RFMU	Comments on RSP
06/27/2019	Wisconsin SHPO	RFMU	Comments on RSP, concurring with study plan
07/03/2019	Patricia K. La Rue	FERC	Comments on RSP
07/08/2019	RFMU	FERC	File comments received from Wisconsin SHPO on RSP with FERC
07/10/2019	FERC	RFMU Mailing List Public Files	FERC issues a Revised Process Plan and Schedule for the River Falls Hydroelectric Project
07/11/2019	FERC	RFMU Mailing List Public Files	FERC issued a Study Plan Determination
10/02/2019	RFMU	Bay Mills Indian Community of Michigan, Flandreau Santee Sioux Tribe of South Dakota, Fond du Lac Reservation Bus. Committee, Forest County Potawatomi Community of Wisconsin, Fort Belknap Indian Community of the Fort Belknap Reservation of Montana, Grand Portage Reservation Bus. Committee, Ho-Chunk Nation of Wisconsin, Kickapoo Tribe	Request for review of the Project Area of Potential Effect (APE)

Date	From	To	Description
		<p>of Oklahoma, Lac Courte Oreilles Band of Chippewa Indians, Lac du Flambeau Band of Lake Superior Chippewa Indians of the Lac du Flambeau Reservation of Wisconsin, Lower Sioux Indian Community in the State of Minnesota, Menominee Indian Tribe of Wisconsin, Mole Lake Band of Chippewa Indians, Oneida Tribe of Indians of Wisconsin, Prairie Island Indian Community in the State of Minnesota, Red Cliff Band of Lake Superior Chippewa Indians, Santee Sioux Nation, Nebraska, Sisseton-Wahpeton Oyate of the Lake Traverse Reservation, South Dakota, Sokaogon Chippewa Community, Spirit Lake Tribe, North Dakota, St Croix Band of Lake Superior Chippewa, Stockbridge Munsee Tribe of Mohican Indians, Stockbridge Munsee Tribe of Mohican Indians, Upper Sioux Community Minnesota, Wisconsin SHPO</p>	
10/04/2019	Wisconsin DNR	FERC	Letter to FERC in support of RFMU's interest in securing funding for various studies
10/10/2019	Wisconsin SHPO	RFMU	Concurrence with APE
1/30/2020	RFMU	FERC Project Distribution List	Initial Study Report (ISR) was filed with FERC and sent to the distribution list
02/13/2020	RFMU	FERC Project Distribution List Meeting open to the public	ISR Meeting held in River Falls, WI
02/20/2020	SHPO	RFMU	Submits comments on findings from ISR's Architectural Resources Survey
02/28/2020	RFMU	FERC Project Distribution List	ISR Meeting summary filed with FERC and sent to distribution list

Date	From	To	Description
03/03/2020	RFMU	Wisconsin SHPO	Request for comment on ISR meeting
03/9/2020	Wisconsin SHPO	RFMU	Submits comments on ISR Meeting Summary
03/26/2020	Wisconsin DNR	FERC RFMU	Submits comments on ISR
03/27/2020	FERC	RFMU Mailing List Public Files	FERC issues comments on the ISR and meeting summary
03/31/2020	Kinni Corridor Collaborative Trout Unlimited Kinnickinnic River Land Trust Trout Unlimited Driftless Area Restoration Effort	FERC RFMU	Submits joint comments and recommendations supporting Year 2 Decommissioning Study Plan
03/31/2020	Patricia K. LaRue	FERC	Submits comments on ISR
04/7/2020	Kevin Westhuis (RFMU) Lesley Brotkowski (TRC) Elizabeth Krchnavek (TRC) Ellen Faulkner (Ayres Associates)	Janet Hutzel (FERC) Shana Wiseman (FERC)	Meeting to discuss how COVID-19 may affect the year 2 studies
04/21/2020	Kevin Westhuis (RFMU) Pete Haug (Ayres Associates) Ellen Faulkner (Ayres Associates)	Michael Rogney (Wisconsin DNR) Dan Helsel (Wisconsin DNR) Chris Willger (Wisconsin DNR) Cheryl Laatsch (Wisconsin DNR) Mark Hazuga (Wisconsin DNR)	Meeting to discuss the comments from Wisconsin DNR regarding ISR

Date	From	To	Description
	Lesley Brotkowski (TRC) Elizabeth Krchnavek (TRC)		
04/30/2020	RFMU	FERC Project Distribution List	Response to ISR comments filed with FERC and sent to distribution list
05/26/2020	FERC	RFMU Mailing List Public Files	FERC issued a Determination on Request for Study Modifications for the River Falls Hydroelectric Project, which included the request for a sediment study
01/29/2021	RFMU	FERC Project Distribution List	Updated Study Report (USR) filed with FERC and sent to distribution list
01/29/2021	RFMU	Wisconsin SHPO	Request for Wisconsin SHPO to comment on USR
02/9/2021	RFMU	FERC Project Distribution List Meeting open to the public	USR Meeting held virtually
02/23/2021	Wisconsin SHPO	RFMU	Submits comments on findings from USR's Archaeological Survey Report
02/24/2021	RFMU	FERC Project Distribution List	USR Meeting summary filed with FERC and sent to distribution list
03/15/2021	RMFU	Wisconsin Coastal Management Program	Request for determination compliance
04/1/2021	RFMU	FERC Project Distribution List	Draft License Application filed with FERC and sent to distribution list
04/1/2021	RFMU	Wisconsin SHPO	Request for Wisconsin SHPO to comment on Draft License Application
04/6/2021	NPS	Lesley Brotkowski (Kleinschmidt Associates [KA])	Response to request for comprehensive plan information for River Falls
04/27/2021	Wisconsin SHPO	Lesley Brotkowski (KA)	Submits concurrence on Project
06/16/2021	NPS	FERC	Submits comments on DLA

Date	From	To	Description
		RFMU	
06/29/2021	FERC	RFMU	Submits comments on DLA
06/30/2021	River Alliance of Wisconsin	Kevin Westhuis (RFMU)	Submits comments on DLA
07/2/2021	Wisconsin DNR	FERC	Submits comments on DLA
07/21/2021	Ellen Faulkner (Ayres Associates)	Wisconsin DNR	Request for clarification on WDNR comments on water quality data
08/8/2021	Kevin Westhuis (RFMU) Lesley Brotkowski (KA)	Trout Unlimited	Water quality monitoring discussion
08/25/2021	RFMU	Notice of Application Distribution List	Notification of Final License Application filing sent to the notice of application distribution list

**Consultation already on file with FERC is not being resubmitted herein. Correspondence below has not been previously filed with FERC.

From: [Blair, Michelle A.](#)
To: [American Whitewater](#); [Andrew Werk Jr](#); [Angela Tornes](#); [Anthony Reider](#); [Bonney Hartley](#); [Bryan Newland](#); [Cheryl Laatsch](#); [Cindy Campbell St. Croix County Clerk](#); [City of Cottage Grove](#); [City of Hastings \(dwietechna@hastingsmn.gov\)](#); [City of Hudson](#); [City of River Falls](#); [City of Stillwater](#); [City of Woodbury](#); [Daniel Munson](#); [Deb Ryun](#); [Fond du Lac Reservation Bus Committee](#); [Forest County Potawatomi Community](#); [Friends of the Kinni](#); [Grand Portage Business Committee](#); [Hector Santiago](#); [Ho-Chunk Nation of Wisconsin \(marlon.whiteeagle@ho-chunk.com\)](#); [Hove Auto Body LLC](#); [Kathleen Angel](#); [Kickapoo Tribe of Oklahoma](#); [Kinnickinnic River Land Trust](#); [Lac Courte Oreilles Band of Chippewa Indians](#); [Lac du Flambeau Band of Lake Superior Chippewa Indians](#); [Lower Sioux Indian Community](#); [Menominee Indian Tribe of Wisconsin](#); [Mole Lake Band of Chippewa Indians](#); [Myra Pearson - Sprit Lake Nation](#); [Nick Utrup](#); [Northwest Regional Planning Commission](#); [Oneida Tribe of Indians of Wisconsin](#); [Patricia La Rue \(patricia.larue.org@gmail.com\)](#); [Pierce County Board of Supervisors Chair](#); [Pierce County, Wisconsin](#); [Prairie Island Indian Community of Minnesota](#); [Richard Peterson](#); [River Alliance of Wisconsin](#); [River City Rentals of Wisconsin, LLC](#); [Robert Chambers](#); [Santee Sioux Nation](#); [Shannon Holsey](#); [Sisseton Wahpeton Oyate of the Lake](#); [Sokaogon Chippewa Community](#); [St. Croix County, Wisconsin](#); [Trout Unlimited Driftless Area Restoration Effort](#); [Trout Unlimited, Kiap TU Wish Chapter](#); [Tyler Howe](#); [University of Wisconsin Extension](#); [Upper Sioux Community Minnesota](#); [Wisconsin COOP Fishery Research Unit](#); [Wisconsin Valley Improvement Company](#)
Cc: [Kevin Westhuis](#); [Brotkowski, Lesley](#); [MacManus, Lisa](#)
Subject: P-10489 River Falls Hydroelectric Project - Draft License Application
Date: Thursday, April 1, 2021 4:05:00 PM
Attachments: [image001.png](#)

On Thursday, April 1st the River Falls Municipal Utilities filed with FERC the Draft License Application for the River Falls Hydroelectric Project (FERC No. 10489). The electronic file can be downloaded through FERC's website using this link –

https://elibrary.ferc.gov/eLibrary/docinfo?accession_num=20210401-5259

If there are any questions or comments regarding this filing please contact Kevin Westhuis at (715) 426-3442 or by email at kwesthuis@rfcity.org or Lesley Brotkowski at (402) 238-7789 or by email at lbrotkowski@trccompanies.com.

Thank you.

Michelle Blair

Project Coordinator



14 Gabriel Drive, Augusta, ME 04330

T 207.620.3845 | **F** 207.621.8226

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From: [Brotkowski, Lesley](mailto:Lesley.Brotkowski@wisconsinhistory.org)
To: tyler.howe@wisconsinhistory.org; [Compliance WHS](mailto:Compliance.WHS@wisconsinhistory.org)
Cc: [Michelle A. Blair \(mblair@trccompanies.com\)](mailto:mblair@trccompanies.com); kwesthuis@rfcity.org
Subject: P-10489 River Falls Hydroelectric Project - Draft License Application
Date: Thursday, April 1, 2021 4:33:00 PM
Attachments: [image001.png](#)
[2021_04_01_SHPO_DLA_Submittal.pdf](#)

Hi Tyler,

River Falls Municipal Utilities (RFMU or Licensee) is requesting review of the Draft License Application for the River Falls Hydroelectric Project (FERC No. 10489). The Draft License Application was filed with FERC today. A digital copy is available through the link below and a hard copy is being mailed to your office. The Wisconsin SHPO review request form is attached. RFMU is requesting review and comment on the Draft License Application by July 2, 2021.

Thank you,
Lesley

From: Blair, Michelle A. <mblair@trccompanies.com>

Sent: Thursday, April 1, 2021 3:05 PM

To: American Whitewater <mark@americanwhitewater.org>; Andrew Werk Jr <andy.werk@ftbelknap.org>; Angela Tornes <angie_tornes@nps.gov>; Anthony Reider <tony.reider@fsst.org>; Bonney Hartley <bonney.hartley@mohican-nsn.gov>; Bryan Newland <bnewland@baymills.org>; Cheryl Laatsch <Cheryl.Laatsch@wisconsin.gov>; Cindy Campbell St. Croix County Clerk <Cindy.Campbell@co.Saint-Croix.wi.us>; City of Cottage Grove <jlevitt@cottagegrovemn.gov>; City of Hastings (dwietecha@hastingsmn.gov) <dwietecha@hastingsmn.gov>; City of Hudson <cityclerk@hudsonwi.gov>; City of River Falls <awhite@rfcity.org>; City of Stillwater <bwolf@ci.stillwater.mn.us>; City of Woodbury <kim.blaeser@woodburymn.gov>; Daniel Munson <daniel.j.munson@usace.army.mil>; Deb Ryun <debryun@scramail.com>; Fond du Lac Reservation Bus Committee <KevinDupuis@fdlrez.com>; Forest County Potawatomi Community <ned.danielsjr@fcpotawatomi-nsn.gov>; Friends of the Kinni <mspdds@gmail.com>; Grand Portage Business Committee <robertdeschampe@grandportage.com>; Hector Santiago <hector_santiago@nps.gov>; Ho-Chunk Nation of Wisconsin (marlon.whiteeagle@ho-chunk.com) <marlon.whiteeagle@ho-chunk.com>; Hove Auto Body LLC <hoveautobody@yahoo.com>; Kathleen Angel <kathleen.angel@wisconsin.gov>; Kickapoo Tribe of Oklahoma <dpacheco@okkt.net>; Kinnickinnic River Land Trust <charlene@kinniriver.org>; Lac Courte Oreilles Band of Chippewa Indians <louis.taylor@lco-nsn.gov>; Lac du Flambeau Band of Lake Superior Chippewa Indians <jwildcatsr@ldftribe.com>; Lower Sioux Indian Community <robert.larsen@lowersioux.com>; Menominee Indian Tribe of Wisconsin <chairman@mitw.org>; Mole Lake Band of Chippewa Indians <communications@scc-nsn.gov>; Myra Pearson - Sprit Lake Nation <mpearson@spiritlakenation.com>; Nick Utrup <Nick_Utrup@fws.gov>; Northwest Regional Planning Commission <sjohnson@nwrpc.com>; Oneida Tribe of Indians of Wisconsin <thill7@oneidanation.org>; Patricia La Rue (patricia.larue.org@gmail.com) <patricia.larue.org@gmail.com>; Pierce County Board of Supervisors Chair <jeff.holst@co.pierce.wi.us>; Pierce County, Wisconsin <jamie.feuerhelm@co.pierce.wi.us>; Prairie

Island Indian Community of Minnesota <noah.white@piic.org>; Richard Peterson <Richard.peterson@redcliff-nsn.gov>; River Alliance of Wisconsin <rshukla@wisconsinrivers.org>; River City Rentals of Wisconsin, LLC <rivercityrentals@live.com>; Robert Chambers <robert@logbuilding.org>; Santee Sioux Nation <rtrudell@santeedakota.org>; Shannon Holsey <shannon.holsey@mohican-nsn.gov>; Sisseton Wahpeton Oyate of the Lake <Chairman@swo-nsn.gov>; Sokaogon Chippewa Community <chris.mcgeshick@scc-nsn.gov>; St. Croix County, Wisconsin <cindy.campbell@sccwi.gov>; Trout Unlimited Driftless Area Restoration Effort <dwelter@tu.org>; Trout Unlimited, Kiap TU Wish Chapter <jswagner@att.net>; Tyler Howe <tyler.howe@wisconsinhistory.org>; University of Wisconsin Extension <colquhoun@wisc.edu>; Upper Sioux Community Minnesota <kevinj@upperSiouxcommunity-nsn.gov>; Wisconsin COOP Fishery Research Unit <Dan.lsermann@uwsp.edu>; Wisconsin Valley Improvement Company <staff@wvic.com>

Cc: Kevin Westhuis <kwesthuis@RFCITY.ORG>; Brotkowski, Lesley <LBrotkowski@trccompanies.com>; MacManus, Lisa <LMacManus@trccompanies.com>

Subject: P-10489 River Falls Hydroelectric Project - Draft License Application

On Thursday, April 1st the River Falls Municipal Utilities filed with FERC the Draft License Application for the River Falls Hydroelectric Project (FERC No. 10489). The electronic file can be downloaded through FERC's website using this link –

https://elibrary.ferc.gov/elibrary/docinfo?accession_num=20210401-5259

If there are any questions or comments regarding this filing please contact Kevin Westhuis at (715) 426-3442 or by email at kwesthuis@rfcity.org or Lesley Brotkowski at (402) 238-7789 or by email at lbrotkowski@trccompanies.com.

Thank you.

Michelle Blair

Project Coordinator



14 Gabriel Drive, Augusta, ME 04330

T 207.620.3845 | **F** 207.621.8226

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REQUEST FOR SHPO COMMENT AND CONSULTATION ON A FEDERAL UNDERTAKING

Submit one copy with each undertaking for which our comment is requested. Please print or type. Return to:

Wisconsin Historical Society, Division of Historic Preservation, Office of Preservation Planning, 816 State Street, Madison, WI 53706

Please Check All Boxes and Include All of the Following Information, as Applicable:

I. GENERAL INFORMATION

- This is a new submittal.
- This is supplemental information relating to Case #: 13-0908/PI and title: _____
- This project is being undertaken pursuant to the terms and conditions of a programmatic or other interagency agreement. The title of the agreement is Programmatic Agreement for Wisconsin

- a. Federal Agency Jurisdiction (Agency providing funds, assistance, license, permit): FERC No. 10489
- b. Federal Agency Contact Person: Shana Wiseman Phone: 202-502-8736
- c. Project Contact Person: Kevin Westhuis Phone: (715) 426-3442
- d. Return Address: 222 Lewis Street, River Falls, WI Zip Code: 54022
- e. Email Address: kwesthuis@rfcity.org
- f. Project Name: River Falls Hydroelectric Project, Draft License Application
- g. Project Street Address: (see attached map)
- h. County: Pierce City: River Falls Zip Code: 54022
- i. Project Location: Township 27 N, Range 19 W, E/W (circle one), Section 1, 2, Quarter Sections _____
- j. Project Narrative Description—Attach Information as Necessary.
- k. Area of Potential Effect (APE). Attach Copy of U.S.G.S. 7.5 Minute Topographic Quadrangle Showing APE.

II. IDENTIFICATION OF HISTORIC PROPERTIES

- Historic Properties are located within the project APE per 36 CFR 800.4. Attach supporting materials.
- Historic Properties are not located within the project APE per 36 CFR 800.4. Attach supporting materials.

III. FINDINGS

- No historic properties will be affected (i.e., none is present or there are historic properties present but the project will have no effect upon them). Attach necessary documentation, as described at 36 CFR 800.11.
- The proposed undertaking will have no adverse effect on one or more historic properties located within the project APE under 36 CFR 800.5. Attach necessary documentation, as described at 36 CFR 800.11.
- The proposed undertaking will result in an adverse effect to one or more historic properties and the applicant, or other federally authorized representative, will consult with the SHPO and other consulting parties to resolve the adverse effect per 36 CFR 800.6. Attach necessary documentation, as described at 36 CFR 800.11, with a proposed plan to resolve adverse effect(s).

Authorized Signature: *Lesley Brotkowski* Date: April 1, 2021

Type or print name: Lesley Brotkowski, TRC

IV. STATE HISTORIC PRESERVATION OFFICE COMMENTS

- Agree with the finding in section III above.
- Object to the finding for reasons indicated in attached letter.
- Cannot review until information is sent as follows: _____

Authorized Signature: _____ Date: _____

From: [Faulkner, Ellen](#)
To: [cheryl laatsch](#)
Cc: [Lesley Brotkowski](#); [Kevin Westhuis](#)
Subject: WDNR Comments on water quality data, River Falls Hydro Project P-10489
Date: Wednesday, July 21, 2021 3:36:39 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

Hi Cheryl,

We are working on addressing comments in the WDNR's July 2, 2021 letter regarding the Draft License Application for the River Falls Hydroelectric Project.

DNR comments state: *The DLA appears to be missing relevant water quality information. All available data from WDNR, River Alliance, and Trout Unlimited should be clearly tabulated in the FLA.*

We're hoping you can provide clarification on other data that WDNR is aware of. The water quality information included in the DLA was listed by WDNR as a study request, presented in the initial and final study reports, and discussed in two study report meetings. After the initial study report meeting in 2020, changes were made to the sampling procedures to respond to stakeholder comments. After the final study report meeting in February 2021, Trout Unlimited (TU) offered to share water temperature data collected on the Kinni near the project, to provide additional information for periods when our instrumentation was lost or inoperable. Other than this information, which was collected outside of the project boundary, and information from the USGS gaging station several miles downstream, we are unsure what "relevant" information is available.

Could WDNR specify the information that is believed to be missing?

Thanks,

Ellen



Ellen Faulkner, PE | Senior Project Manager

Office: 715.834.3161 | Direct: [715.831.7631](tel:715.831.7631) | Cell: [715.559.0779](tel:715.559.0779)

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City of River Falls Municipal Utilities (RFMU)

River Falls, Wisconsin

River Falls Hydroelectric Project (FERC Project No. 10489)

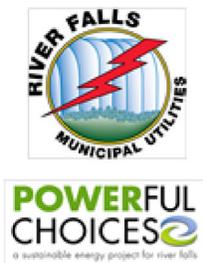
Consultation Documentation

Date	August 8, 2021
Person documenting conversation	Lesley Brotkowski, Kleinschmidt Associates
Discussion participants	Kent Johnson, Kiap-TU-Wish Chapter of Trout Unlimited (TU), Kevin Westhuis, RFMU
Subject of conversation	Junction Falls Water Quality Monitoring

Summary of Conversation

Kevin and Lesley set up a call with Kent to discuss potential teaming opportunities between RFMU and TU for future water quality monitoring efforts. TU has been monitoring water quality on the Kinnickinnic River since the early 1990's. TU was also recently involved in the development of a monitoring plan to assess the ecological benefits of Kinnickinnic River dam removal and restoration, developed by Inter-Fluve, May 2021. RFMU conducted two years of water quality monitoring for the River Falls Hydroelectric Project for the proposed licensing of Junction Falls and decommissioning of Powell Falls developments. RFMU purchased continuous water quality sondes that measure dissolved oxygen and temperature that could be used in future monitoring efforts.

RFMU discussed the possibility of working with TU to continue dissolved oxygen and temperature monitoring at the Junction Falls Development. Kent stated that while he was unable to personally commit TU to future water quality monitoring efforts, he is willing to continue conversations with RFMU on water quality monitoring options. RFMU will continue coordination with TU regarding potential options for continued water quality monitoring at the Junction Falls Development.



RIVER FALLS MUNICIPAL UTILITIES
ADDRESS 222 Lewis Street, River Falls, WI 54022
PHONE 715-425-0906
FAX 715-425-7217
WEBSITE www.rfmu.org

August 25, 2021

***River Falls Hydroelectric Project FERC No. 10489
Application for a Subsequent License to the Federal Energy Regulatory Commission***

To whom it may concern:

City of River Falls Municipal Utilities (RFMU or Licensee), Licensee for the River Falls Hydroelectric Project (Project) is applying to the Federal Energy Regulatory Commission (FERC) for a subsequent License pursuant to the Federal Power Act to continue operation of the Junction Falls Development located on the Kinnickinnic River in Pierce County River Falls, Wisconsin.

The License Application is being filed with FERC no later than August 31, 2021 and will be available for public inspection at the City of River Falls office at 222 Lewis Street, River Falls, WI during normal working hours. The License Application will also be available for inspection online at <https://elibrary.ferc.gov/elibrary> under docket number P-10489. A Project location map is attached for your reference. The FERC application process requires that affected landowners, Tribes, and nearest municipalities be notified of the application, which is why you are receiving this letter.

Sincerely,

Kevin Westhuis
Utility Director
City of River Falls Municipal Utilities

Enc.: Exhibit G Project location map

CERTIFICATE OF SERVICE
RIVER FALLS HYDROELECTRIC PROJECT, FERC No. 10489

I, Kevin Westhuis, Utility Director, City of River Falls Municipal Utilities, hereby certify that copies of the foregoing document have been transmitted to the following parties on August 25, 2021.

Via hard copy, certified FIRM mail, postage paid to:

Tribes

Bryan Newland
Chairman
Bay Mills Indian Community of Michigan
12140 W. Lakeshore Drive
Brimley, MI 49715-9319

Anthony Reider
President
Flandreau Santee Sioux Tribe of South
Dakota
P.O. Box 283
603 W. Broad Avenue
Flandreau, SD 57028-0283

Kevin Dupuis Sr.
Chairman
Fond du Lac Reservation Business
Committee
1720 Big Lake Road
Cloquet, MN 55720-9702

Ned Daniels Jr.
Chairman
Forest County Potawatomi Community of
Wisconsin
P.O. Box 340
Crandon, WI 54520

Andrew "Andy" Werk Jr.
President
Fort Belknap Indian Community of the
Fort Belknap Reservation of Montana
656 Agency Main Street
Harlem, MT 59526-9455

Robert "Bobby" Deschampe
Chairman
Grand Portage Reservation Bus.
Committee
P.O. Box 428
Grand Portage, MN 55605-0428

Marlon WhiteEagle
President
Ho-Chunk Nation of Wisconsin
W9814 Airport Road
Black River Falls, WI 54615

David Pacheco Jr.
Chairman
Kickapoo Tribe of Oklahoma
P.O. Box 70
McLoud, OK 74851

Louis Taylor
Chairman
Lac Courte Oreilles Band of Chippewa
Indians
13394 W. Trepania Road, Bldg No. 1
Hayward, WI 54843-2186

Joseph Wildcat, Sr.
President
Lac du Flambeau Band of Lake Superior
Chippewa Indians of the Lac du Flambeau
Reservation of Wisconsin
P.O. Box 67
Lac du Flambeau, WI 54538

Robert L. Larsen
President
Lower Sioux Indian Community in the
State of Minnesota
P.O. Box 308
Morton, MN 56270

Gunner Peters, Chairman
Menominee Indian Tribe of Wisconsin
P.O. Box 910
Keshena, WI 54135

Tehassi Hill
Tribal Chair
Oneida Tribe of Indians of Wisconsin
P.O. Box 365
Oneida, WI 54155-0365

Noah White
THPO
Prairie Island Indian Community in the
State of Minnesota
5636 Sturgeon Lake Road
Welch, MN 55089

Richard "Rick" Peterson
Tribal Chair
Red Cliff Band of Lake Superior
Chippewa Indians
88455 Pike Road, Hwy 13
Bayfield, WI 54814

Roger Trudell
Chairperson
Santee Sioux Nation, Nebraska
108 Spirit Lake Avenue
West Niobrara, NE 68760-7219

Darwin James
District Chairperson
Sisseton-Wahpeton Oyate of the Lake
Traverse Reservation, South Dakota
P.O. Box 509
Agency Village, SD 57262-0509

Robert VanZile Jr.
Tribal Chair
Sokaogon Chippewa Community
3051 Sand Lake Road
Crandon, WI 54520-9801

Douglas Yankton, Sr. Chairperson
Spirit Lake Tribe, North Dakota
P.O. Box 359
Fort Totten, ND 58335-0359

Susan Lowe
Chair
St Croix Band of Lake Superior Chippewa
24663 Angeline Avenue
Webster, WI 54893-9246

Shannon Holsey
Tribal President
Stockbridge-Munsee Band of Mohican
Indians
P.O. Box 70
N8476 Mo He Con Nuck Road
Bowler, WI 54416

Bonney Hartley
THPO
Stockbridge Munsee Tribe of Mohican
Indians
65 1st Street
Troy, NY 12180

Kevin Jensvold
Chairperson
Upper Sioux Community Minnesota
P.O. Box 147
Granite Falls, MN 56241

Local Governments

Dan Wietecha
City Administrator
City of Hastings
101 4th Street East
Hastings, MN 55033

Becky Eggen
City Clerk
City of Hudson
505 3rd Street
Hudson, WI 54016-1694

Amy White
City Clerk
City of River Falls
222 Lewis Street
River Falls, WI 54022

Jeff Holst
Chair
Pierce County
Board of Supervisors
414 W. Main Street
Ellsworth, WI 54011

Jamie Feuerhelm
County Clerk
Pierce County, Wisconsin
414 W. Main Street
P.O. Box 119
Ellsworth, WI 54011

Cindy Campbell
County Clerk
1101 Carmichael Road
Room 1400
Hudson, WI 54016

City Clerk
City of Cottage Grove
12800 Ravine Parkway South
Cottage Grove, MN 55016

City Clerk
City of Woodbury
8301 Valley Creek Road
Woodbury, MN 55125

City Clerk
City of Stillwater
216 North Fourth Street
Stillwater, MN 55082

Landowners

Foster Associates, Inc
c/o Judie Babcock
404 S. Winter Street
PO Box 3
River Falls, WI 54022

River City Rentals of Wisconsin, LLC
314 Luca Lane
River Falls, WI 54022

Blair, Michelle A.

From: DoNotReply@ereceipt.usps.gov
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2. Joseph Wildcat Sr. President Lac du Flambeau Band of Lake Superior Chippewa-Indians of the Lac du Flambeau Reservation PO Box 67 Lac du Flambeau, WI 54538													
3. Robert L. Larsen President Lower Sioux Indian Community on the State of Minnesota PO Box 308 Morton MN 56270													
4. Gunners Peters Chairman Menominee Indian Tribe of Wisconsin PO Box 910 Keshena WI 54135													
5. Tehassi Hill Tribal Chair Oneida Tribe of Indians of Wisconsin PO Box 365 Oneida WI 54155-0365													
6. Noah White THPO Prairie Island Indian Community on the State of Minnesota 5636 Sturgeon Lake Road Welch, MN 55089													
7. Richard Peterson Tribal Chair Red Cliff Band of Lake Superior Chippewa Indians 88455 Pike Road Hwy 113 Bayfield WI 54814													
8. Roder Trudell Chair Person Santee Sioux Nation Nebraska 108 Spirit Lake Avenue West Niobrara, NE 68760-7219													

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Parson James District Chairperson Sisseton-Wahpeton Circle of the Lake Traverse Reservation PO Box 509 Areny Village SD 57262-0509												
Robert Van Zile Jr. Tribal Chair Sokaoson Chippewa Community 3051 Sand Lake Road Granden WI 54520-9801												
Douglas Yankton Sr. Chairperson Spirit Lake Tribe North Dakota PO Box 359 Fort Totten, ND 58335-0359												
Susan Lowe, Chair St Croix Band of Lake Superior Chippewa 24663 Angelina Avenue Webster WI 54993-9246												
Shannon Hosley Tribal President Stockbridge-Munsee Band of Mohican Indians PO Box 100 N 8476 Mohegan Nockload Powder WI 54416												
Bonney Hartley THRO Stockbridge Munsie Tribe of Mohican Indians 45 1st Street Irony NY 12180												
Kevin Jensvold Chairperson Upper Sioux Community Minnesota PO Box 144 Granite Hills MN 56241												
Peg Wietecha City Administrator City of Hastings 101 14th Street East Hastings MN 55033												

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Addressee (Name, Street, City, State, & ZIP Code™)

1. Beckley Gagen City Clerk
City of Hudson
505 3rd Street
Hudson WI 54016-1694
2. Amy White City Clerk
City of River Falls
222 Lewis Street
River Falls WI 54022
3. Jeff Halst Chair
Pierce County Board of Supervisors
144 W. Main Street
Ellsworth WI 54011
4. Jamie Feuerhelm County Clerk
Pierce County Wisconsin
144 W. Main Street PO Box 119
Ellsworth WI 54011
5. Cindy Campbell County Clerk
1101 Carmichael Road Room 1400
Hudson WI 54016
6. City Clerk
City of Cottage Grove
12800 Ravine Parkway South
Cottage Grove MN 55016
7. City Clerk
City of Woodbury
8301 Valley Creek Road
Woodbury MN 55125
8. City Clerk
City of Stillwater
216 North Fourth Street
Stillwater MN 55082

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		Handling Charge - if Registered and over \$50,000 in value				Adult Signature Required	Adult Signature Restricted Delivery	Restricted Delivery	Return Receipt	Signature Confirmation	Signature Confirmation Restricted Delivery	Special Handling

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**APPENDIX E-2: WISCONSIN COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

Brotkowski, Lesley

From: Brotkowski, Lesley
Sent: Monday, March 15, 2021 12:17 PM
To: Kathleen Angel
Cc: kwesthuis@rfcity.org
Subject: River Falls Hydroelectric Project, FERC Project No. 10489, Request for Determination of Compliance
Attachments: 2021_03_15 WCMP River Falls_ Request Determination of Compliance.pdf

Sensitivity: Confidential

Kathleen,

City of River Falls Municipal Utilities is in the process of relicensing the River Falls Hydroelectric Project (Project) with FERC. The Project is located along the Kinnickinnic River in the City of River Falls, in Pierce County, Wisconsin. The existing FERC license will expire in August 2023; the Draft License Application will be submitted in April 2021 and the Final License Application will be filed in August 2021.

As part of the relicensing process, City of River Falls Municipal Utilities must provide documentation that the proposed relicensing complies with the policies of Wisconsin's approved Coastal Management Plan, and that any activities associated with the licensing will be conducted in a manner that is consistent with such policies. City of River Falls Municipal Utilities is requesting your confirmation that the proposed relicensing complies with the policies of the Wisconsin Coastal Management Program and any activities associated with the licensing will be conducted in a manner that is consistent with such policies, as the Project is located within Pierce County and outside of Wisconsin's designated coastal area.

The attached letter constitutes a formal request for a written determination of consistency with Wisconsin's Coastal Management Program. Please send a copy of the written determination to both Kevin Westhuis and myself.

Thank you for your review of the Project and feel free to contact Kevin or myself with any questions you may have.

Lesley Brotkowski
Senior Consultant



233403 Stettin Ridge Court, Wausau, WI 54401
C 402.238.7789 | F 207.621.8826
E lbrotkowski@trccompanies.com
[LinkedIn](#) | [Twitter](#) | [Blog](#) | [TRCcompanies.com](#)



RIVER FALLS MUNICIPAL UTILITIES
ADDRESS 222 Lewis Street, River Falls, WI 54022
PHONE 715-425-0906
FAX 715-425-7217
WEBSITE www.rfmu.org

March 15, 2021

Kathleen Angel
Wisconsin Department of Administration
101 East Wilson Street, 10th Floor
Wisconsin Coastal Management Program
Madison, WI 53703

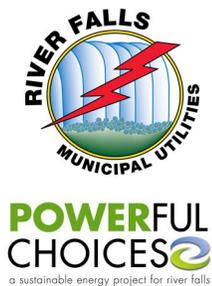
RE: River Falls Hydroelectric Project, FERC Project No. 10489
Request for Determination of Compliance

Dear Ms. Angel:

City of River Falls Municipal Utilities owns and operates the River Falls Hydroelectric Project (Project). The Project is located along the Kinnickinnic River in the City of River Falls, Pierce County, Wisconsin. The Project is licensed by the Federal Energy Regulatory Commission (FERC) as FERC Project No. 10489. The existing FERC license will expire in August 2023. A Pre-Application Document providing a description of the Project and operations was submitted to your office in August 2018. The Draft License Application will be submitted in April 2021 and the Final License Application will be submitted in August 2021.

As part of the relicensing process, an applicant must provide to the FERC documentation that a determination has been made that the proposed relicensing complies with the policies of Wisconsin's approved Coastal Management Plan, and that any activities associated with the licensing will be conducted in a manner that is consistent with such policies. This letter constitutes a formal request on behalf of City of River Falls Municipal Utilities for a written determination of consistency with Wisconsin's Coastal Management Program (WCMP).

The Project is not located in Wisconsin's designated coastal area. River Falls Municipal Utilities is requesting your confirmation that the proposed relicensing complies with the policies of WCMP and any activities associated with the licensing will be conducted in a manner that is consistent with such policies as the Project is located within Pierce County, and outside of Wisconsin's designated coastal area.



RIVER FALLS MUNICIPAL UTILITIES
ADDRESS 222 Lewis Street, River Falls, WI 54022
PHONE 715-425-0906
FAX 715-425-7217
WEBSITE www.rfmu.org

Please feel free to contact me with any questions or comments regarding this request. Thank you in advance for your attention to this matter.

Sincerely,

Kevin Westhuis
Utility Director
City of River Falls Municipal Utilities
222 Lewis Street
River Falls, WI 54022

Phone: (715) 426-3442
Email: kwesthuis@rfcity.org

cc: Lesley Brotkowski, TRC

**APPENDIX E-3: RARE, THREATENED, AND ENDANGERED SPECIES
DATA SEARCHES (PRIVILEGED - FILED UNDER SEPARATE COVER)**

APPENDIX E-4: RECREATION MANAGEMENT PLAN

RECREATION MANAGEMENT PLAN

RIVER FALLS HYDROELECTRIC PROJECT FERC No. 10489

Prepared for:

City of River Falls Municipal Utilities

Prepared by:

TRC
6737 West Washington Street
Suite 2100
West Allis, WI 53214

August 2021

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**RIVER FALLS HYDROELECTRIC PROJECT
FERC No. 10489**

RECREATION MANAGEMENT PLAN

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LIST OF ACRONYMS

Commission	Federal Energy Regulatory Commission
FERC	Federal Energy Regulatory Commission
ISR	Initial Study Report
Licensee	City of River Falls Municipal Utilities
MW	megawatts
Project	River Falls Hydroelectric Project (FERC No. 10489)
RMP	Recreation Management Plan
RM	river mile
USGS	U.S. Geological Survey
RFMU	City of River Falls Municipal Utilities

1.0 INTRODUCTION AND BACKGROUND

This document represents the River Falls Hydroelectric Project (River Falls Project or Project, Project No. 10489) Recreation Management Plan (RMP). The Project is located on the Kinnickinnic River in the City of River Falls, in Pierce County, Wisconsin. City of River Falls Municipal Utilities (RFMU or Licensee) is the owner and Licensee for the Project.

The Licensee conducted a Recreation Facility Inventory in 2019 and a Recreation Use Assessment in 2020.

This RMP describes the available public recreation sites and facilities that provide access to Project lands and waters. This RMP also identifies measures for ensuring public access to Project lands and waters that, collectively, will maintain and enhance the recreational opportunities provided at the River Falls Project over the term of the new license.

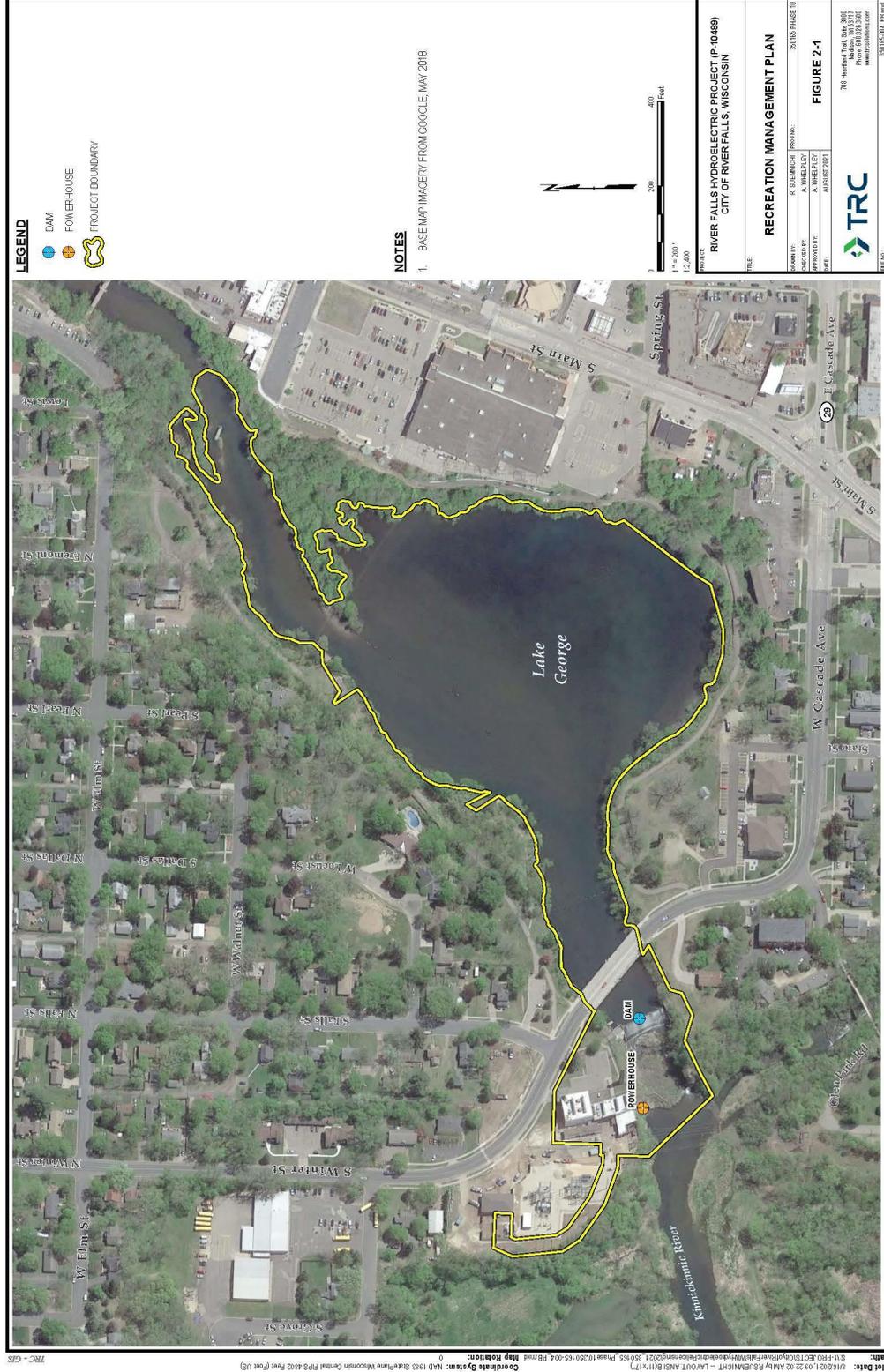
2.0 PROJECT DESCRIPTION

The Project is located on the Kinnickinnic River in the City of River Falls, in Pierce County, Wisconsin. This region offers abundant and varied recreation opportunities.

The Project includes the Junction Falls Development, which consists of a 32.5-foot high concrete overflow spillway, 15.0 acre impoundment, and powerhouse with one generating unit rated at 250 kilowatts (kW).

The River Falls Project Boundary includes a total of approximately 19.0 acres, of which 15.3 acres are open water. A map of the Project area, depicting the location of the Project Boundary is provided in Figure 2-1.

FIGURE 2-1 PROJECT BOUNDARY MAP



3.0 PROJECT-RELATED RECREATION AREAS AND FACILITIES

3.1 EXISTING PROJECT RECREATION SITES AND FACILITIES

The River Falls Project has three public recreation sites located within the Project Boundary. These are summarized in Table 3-1 and Table 3-2 and described in greater detail below. Figure 3-1 provides the location of the public recreation sites.

TABLE 3-1 PUBLIC RECREATION SITES AT THE RIVER FALLS PROJECT

Recreation Site Name	Location	Recreation Facilities/Amenities
White Kinnickinnic Pathway	Located on the west side of the Kinnickinnic River.	Trail
Lake George Fishing Area	Located on the west side of the Kinnickinnic River.	Fishing platform, Interpretive sign, picnic table
Lake George Boat Launch	Located on the west side of the Kinnickinnic River.	Carry-in boat launch

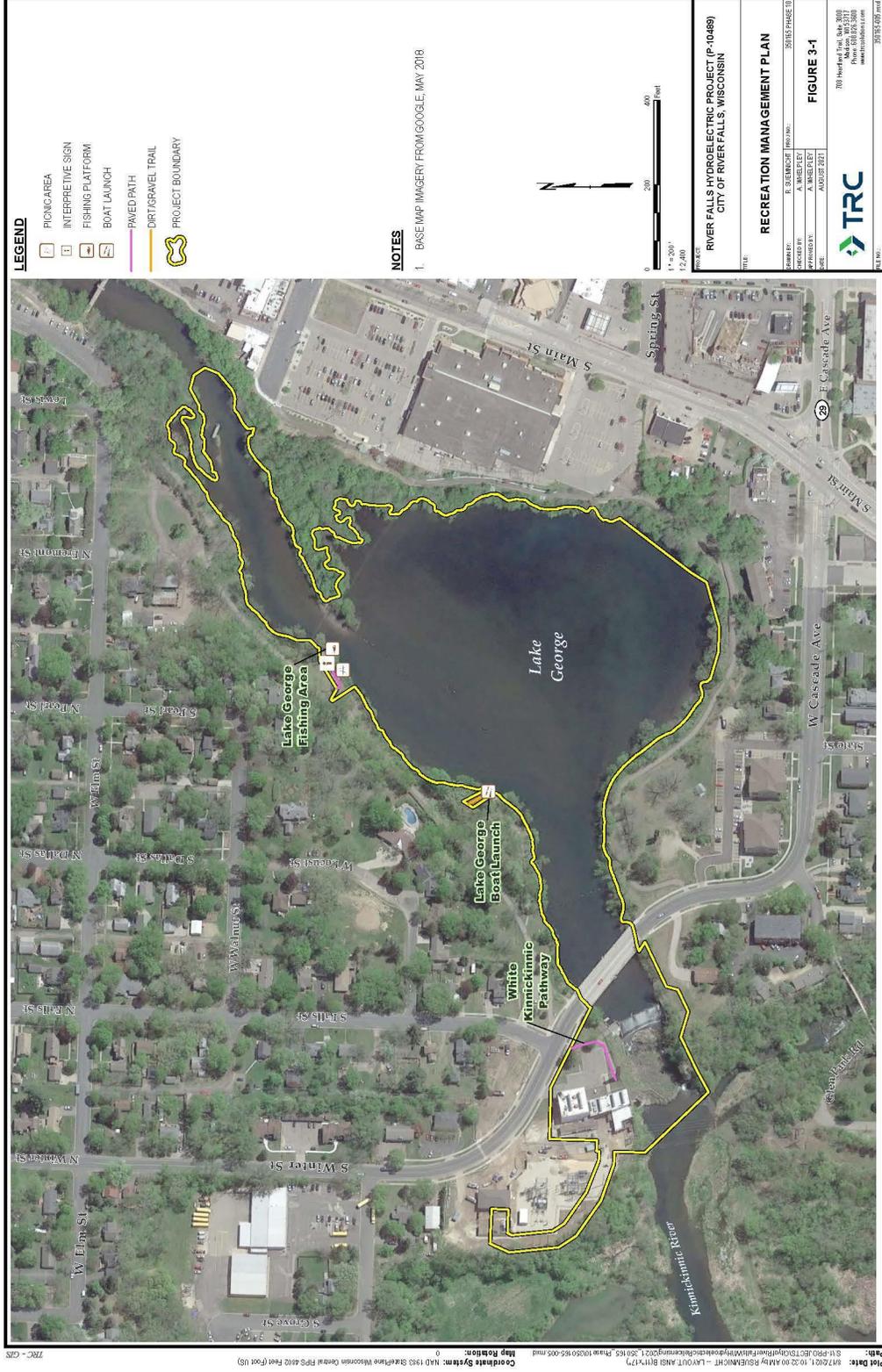
TABLE 3-2 RECREATION FACILITIES AND AMENITIES FOR THE RIVER FALLS PROJECT¹

Recreation Site / Facility Name	Facility Type / Associated Amenity	Latitude	Longitude	Assessed Condition	In the Project Boundary?	Responsible Entity	Hours / Seasons of Operation	Description / Notes
White Kinnickinnic Pathway	Trail	44.857940*	-92.629885*	Good	Yes	City of River Falls	5am-11pm Year round	Paved trail within Heritage Park. Approximately 218 feet are located within the Project Boundary.
Lake George Fishing Area	Fishing platform	44.85735	-92.630261	Good	Yes	City of River Falls	5am-11pm Year round	Fishing platform with single wooden bench.
	Interpretive sign	44.857376	-92.630302	Good	Yes	City of River Falls		Interpretive sign about the belted kingfisher.
	Picnic table	44.857285	-92.630425	Good	Yes	City of River Falls		Picnic table.
Lake George Boat Launch	Boat launch	44.856292	-92.631471	Good	Yes	City of River Falls	5am-11pm Year round	Carry-in boat launch.

* This trail is a linear feature that extends outside of the Project Boundary. The coordinates provided indicate a reference point.

¹ The Recreation Facility Inventory included a larger study area for the licensing effort, however this RMP includes areas within the Project Boundary only.

FIGURE 3-1 PUBLIC RECREATION SITES AT THE RIVER FALLS PROJECT



White Kinnickinnic Pathway

Location: The White Kinnickinnic Pathway is a paved trail in Heritage Park that runs along the northwestern shore of Lake George and the Kinnickinnic River. The White Kinnickinnic Pathway is partially inside of the Project Boundary (as shown in Figure 3-1) and extends beyond the Project Boundary.

Description of Facilities: The portion of the White Kinnickinnic Pathway that is located inside the Project Boundary is approximately 169 feet. The pathway is approximately four feet in width. The trail provides opportunities for biking, walking, running, view of aesthetic flow over the Junction Falls spillway, and nature viewing. Photos 3-1 shows the segment of the White Kinnickinnic Pathway that is within the Project Boundary.

Site Regulations: The White Kinnickinnic Pathway is owned and maintained by the City of River Falls and is open from 5 am to 11 pm.

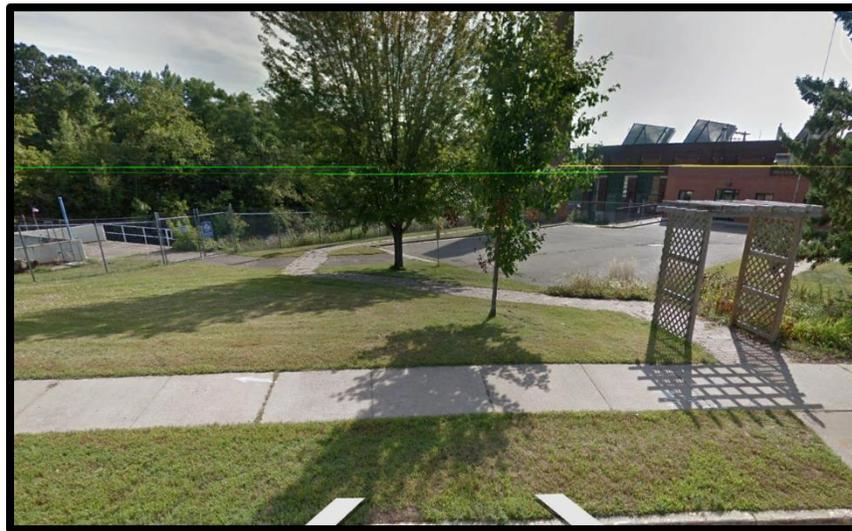


PHOTO 3-1 WHITE KINNICKINNIC PATHWAY ALONG THE SOUTHWESTERN SHORE OF LAKE GEORGE, FACING SOUTH, PHOTO TAKEN 08/2021²

² Image obtained from GoogleEarth street view 08/17/2021. A city sidewalk is in the foreground, while the trail is in the background of this image.

Lake George Fishing Area

Location: The Lake George Fishing Area is located on the northwestern shore of Lake George. The Lake George Fishing Area is accessible from the White Kinnickinnic Pathway.

Description of Facilities: The site has a fishing platform, an interpretive sign about the belted kingfisher, and a picnic table. The fishing platform is approximately ten feet long and is accessible for individuals with disabilities via a paved path off from the White Kinnickinnic Pathway (approximately 49 feet long). The fishing platform is shown in Photo 3-2. Photo 3-3 shows the approximately four-foot-wide path from the White Kinnickinnic Pathway to the fishing platform. The fishing platform provides an opportunity for recreational fishing and also provides views of Lake George.

Site Regulations: The Lake George Fishing Area is owned and maintained by the City of River Falls and is open from 5 am to 11 pm.



**PHOTO 3-2 FISHING PLATFORM AT LAKE GEORGE FISHING AREA, FACING NORTHEAST;
PHOTO TAKEN 10/2019**



PHOTO 3-3 **PATH TO FISHING PLATFORM AT LAKE GEORGE FISHING AREA FROM THE
WHITE KINNICKINNIC PATHWAY, FACING NORTHEAST;
PHOTO TAKEN 08/2021**

Lake George Boat Launch

Location: The Lake George Boat Launch is located on the northwestern shore of Lake George and provides water access to the lake.

Description of Facilities: The site is a carry-in boat launch for canoes, kayaks, and other small watercraft. A photo of the Lake George Boat Launch is provided as Photo 3-4. The Lake George Boat Launch is accessible via an approximately 63 foot long and four-foot-wide dirt path off from the White Kinnickinnic Pathway along Lake George.

Site Regulations: The Lake George Boat Launch is owned and maintained by the City of River Falls and is open from 5 am – 11 pm.



PHOTO 3-4 LAKE GEORGE BOAT LAUNCH, FACING EAST; PHOTO TAKEN 10/2019

4.0 MANAGEMENT MEASURES

4.1 PUBLIC RECREATION SITE MANAGEMENT AND MAINTENANCE

The City of River Falls is responsible for all public recreation sites within the Project Boundary and therefore will also be responsible to provide safe and appropriate public recreation access to the Project over the term of the new license.

Typical routine maintenance activities on a periodic basis include: litter clean-up; removal of fallen trees, lawn mowing, and other vegetation management that hinders site use (including managing vegetation along trails); and checking that Project signage is in-place and readable.

4.2 DETERMINING THE NEED FOR ADDITIONAL MEASURES OR EXPANSION OF EXISTING SITES

The Licensee will monitor use of the three public recreation sites (White Kinnickinnic Pathway, Lake George Fishing Area, and Lake George Boat Launch) approximately every five years over the term of the new Project license. Monitoring will occur concurrently with the City of River Falls Comprehensive Plan review. The Licensee will update the Project RMP to include the results of the recreation use monitoring along with a condition assessment for each site, and to make any proposed changes to the public recreation sites that use monitoring suggests are necessary to meet demand. The RMP will be updated, revised, and filed with FERC approximately every five years.

5.0 SCHEDULE

The Licensee will implement this RMP upon approval by the Commission.

6.0 MODIFICATIONS TO RMP

Any proposed modification to this RMP would be submitted to the National Parks Service, and Wisconsin Division of Natural Resources for review and comment prior to submittal to FERC.

Any plans that may be developed for future recreational facilities within the Project Boundary would be provided to FERC for approval prior to construction. Any such plans would be

provided along with drawings of facilities, documentation of consultation, and schedule. The Wisconsin State Historic Preservation Office would be included in the consultation process regarding the construction of new facilities.

APPENDIX E-5: HISTORIC PROPERTIES MANAGEMENT PLAN

DRAFT
HISTORIC PROPERTIES MANAGEMENT PLAN

RIVER FALLS HYDROELECTRIC PROJECT
FERC No. 10489

Prepared for:

City of River Falls Municipal Utilities

Prepared by:

TRC
6737 West Washington Street
Suite 2100
West Allis, WI 53214

August 2021

**RIVER FALLS HYDROELECTRIC PROJECT
(FERC NO. 10489)**

DRAFT HISTORIC PROPERTIES MANAGEMENT PLAN

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Appendix B Secretary of the Interior’s Standards for Rehabilitation and Guidelines for
Rehabilitating Historic Buildings
Appendix C Photographs

LIST OF ACRONYMS

AHI	Architecture and History Inventory
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effect
CFR	Code of Federal Regulations
FERC	Federal Energy Regulatory Commission
HPMP	Historic Properties Management Plan
kW	Kilowatt
Licensee	City of River Falls Municipal Utilities
NHPA	National Historic Preservation Act
No.	Number
NRHP	National Register of Historic Places
PA	Programmatic Agreement
Project	River Falls Hydroelectric Project (FERC P-10489)
Project Boundary	The boundary line defined in the Project license issued by FERC that surrounds those areas necessary for safe and efficient operation and maintenance of the Project or for other specified Project purposes.
RFMU	City of River Falls Municipal Utilities
SHPO	State Historic Preservation Officer
USACE	US Army Corps of Engineers
WHS	Wisconsin Historical Society
WHPD	Wisconsin Historic Preservation Database

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1.0 INTRODUCTION

This document represents the River Falls Hydroelectric Project (Project) (Federal Energy Regulatory Commission [FERC] No. 10489) Historic Properties Management Plan (HPMP) for the Junction Falls Development. The Project is located in northwest Wisconsin along the Kinnickinnic River in the City of River Falls in Pierce County, Wisconsin. City of River Falls Municipal Utilities is the owner and Licensee for the Project.

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, (16 U.S.C. § 470s) requires FERC to take into account the effect of its undertakings on historic properties. In this case, the undertaking includes the issuance of a federal license for the continued operation of the Project. The current license for the Project was issued by order dated September 27, 1988 and has a termination date of August 31, 2023. Section 106 of the NHPA is implemented through the Advisory Council on Historic Preservation (ACHP) regulations “Protection of Historic Properties” (36 CFR Part 800). For hydropower licensing actions, FERC typically completes Section 106 by entering into a Programmatic Agreement or Memorandum of Agreement with the licensee, the ACHP, and the state and tribal historic preservation offices. In 1993, a Programmatic Agreement (PA) was signed by FERC, the ACHP, the state of Wisconsin State Historic Preservation Officer (SHPO), and the state of Michigan SHPO.¹ The PA identifies pre-licensing procedures for identifying and evaluating cultural resources, and post licensing process to develop a Historic Resources Management Plan (herein called an HPMP). A copy of this PA is included as Appendix A of this HPMP.

This Project’s HPMP addresses long-term management of historic resources and considers the potential effect of the Licensee’s actions on historic properties. The Project’s HPMP contained herein conforms with the PA requirements and takes into account the guidelines set forth by FERC for the preparation of historic properties management plans (FERC 2002). The goal of the Project HPMP is to provide the framework within which all historic properties (those properties eligible for or listed in the National Register of Historic Places (NRHP) within the Project Area of Potential Effect (APE) are to be managed in light of known or expected Project effects over the term of the new FERC license. In accordance with FERC’s guidelines, historic properties may include a hydroelectric project’s facilities; other related buildings and structures; prehistoric and historic archaeological sites; and properties of traditional religious and cultural significance to Indian Tribes.

¹ The PA is titled *Programmatic Agreement among the Federal Energy Regulatory Commission; the Advisory Council on Historic Preservation; the State of Wisconsin, State Historic Preservation Officer; and the State of Michigan, State Historic Preservation Officer; for Managing Historic Properties that May Be Affected by New and Amended Licenses Issuing for the Continued Operation of Existing Hydroelectric Projects in the State of Wisconsin and Adjacent Portions of the State of Michigan*. This PA was executed in December 1993.

The HPMP is organized as follows:

- Section 1: Introduction
- Section 2: Overview
- Section 3: Project Management and Preservation Goals and Priorities
- Section 4: Measures to Protect Historic Resources
- Section 5: Public Involvement and Interpretation
- Section 6: HPMP Reporting and Review Procedures
- Section 7: References

Section 2 outlines the general background information for the Project including a description of the Project's facilities and operations, and the definition of the Project APE as developed for the FERC relicensing of the Project. Section 2 provides a description of archaeological and historic properties within the Project APE and their significance. Section 2 also summarizes results of efforts to identify and evaluate historic resources in the areas surrounding the Project APE. Section 3 outlines the basic historic preservation standards and project management goals, which guide the development and implementation of the HPMP. Section 4 establishes measures to manage effects to historic properties over the course of the new license. Section 5 discusses public involvement and ways the Licensee proposes to interpret historic properties for the benefit of the public. Section 6 outlines HPMP reporting and review procedures. Section 7 provides full references of all information used in the preparation of this HPMP.

2.0 OVERVIEW

There are no NRHP-eligible archaeological sites located within the Project Boundary. A map of the Project Boundary is shown in Figure 2.1-1. The Wisconsin Historic Preservation Database (WHPD) does not show any archaeological sites in or adjacent to the Project Boundary. The Project Boundary consists of the Junction Falls Development and Lake George impoundment, which was created by the construction of the Junction Falls Dam and lands adjacent to the shoreline from the Project to approximately Walnut Street.

2.1 Project Description

The Project is located in northwest Wisconsin in the City of River Falls in Pierce County, Wisconsin. The Kinnickinnic River originates north of Interstate 94 in the town of Warren in St. Croix County, Wisconsin and flows from several intermittent, spring-fed streams southwest before discharging as the last major tributary to the St. Croix River at Kinnickinnic state park. The Kinnickinnic River is broad and shallow averaging 40 feet wide and a foot deep (RFMU 2021). The Kinnickinnic River has a length of 22 river miles with an average slope of about 10 feet per mile (USACE 2021). The Project is located in the Western Prairie Ecological Landscape, which covers a small western portion of Wisconsin and is part of the larger ecoregion that extends into Minnesota (Wisconsin DNR 2021). Topography of this region contains glaciated, rolling hills with pothole lakes, ponds, and wet depressions.

The Junction Falls Development consists of a 114.7-foot-long, 32.5-foot-high concrete uncontrolled stepped spillway; 26 foot long headworks consisting of a wasteway and penstock intake, an impoundment with a surface area of 15.0 acres at the normal pool elevation of 865.6 feet North American Vertical Datum of 1988 (NAVD88); a 170-foot-long, 6-foot-diameter penstock; a powerhouse containing one generating unit rated at 250 kilowatts (kW); 163-foot-long 2,300 volt interconnection line connecting the powerhouse to a 500 kVA Howard step-up transformer and a 480-foot-long 12,470 volt interconnection line exiting the transformer; and appurtenant facilities. The dam forms an impoundment, also known as Lake George.

The Project Boundary encompasses a total of approximately 19.0 acres (15.3 acres water and 3.7 acres land). The Project is operated as a run-of-river facility, which means that the inflow equals outflow of the Project. The gross storage capacity in the Project impoundment is 142.7 acre-feet at the normal pool elevation of 865.6 feet NAVD88.

2.1.1 Historical Background

Prior to the early settlement of River Falls and the surrounding region, two Native American tribes, the Chippewa and the Sioux, occupied the area. In 1837, the Chippewa ceded to the United States all of the land east of the Mississippi River extending north to the source of the

Mississippi River. Despite the opening of the territory, settlement was rather slow until the mid-nineteenth century (City of River Falls 2019).

The founding of the City of River Falls is credited to Joel Foster in 1848, which soon brought more individuals to the area surrounding the Kinnickinnic River (City of River Falls 2021, RFMU 2021). There were various names for the city such as Kinnickinnic and Greenwood, but in 1858 River Falls became the official name. Milling and lumber were important industries as Joel Foster himself opened up one of the first sawmills in the area (RFMU 2021).

Milling became the principal industry and many Yankee millers came to the area to capitalize on the river power. At one time there were five mills operating on the Kinnickinnic River. Greenwood, Junction, Prairie, Cascade, and further downriver, the Dayton mill. The City of River Falls reached the epitome of its early industrial growth between 1872-1885. The growing milling activity increased the need for shipping in additional wheat and shipping out flour. In 1878 the Hudson-River Falls Rail line was established. In 1877, a severe drought dried the Kinnickinnic River and idled area mills (TRC 2020). Three successive years of drought and an infestation of cinch bugs ended the viability of milling and shipping wheat from River Falls. The mill deteriorated for the next five years and was destroyed by fire in August 1896 (TRC 2020). The railroad continued until 1966 as more shipping went by truck (RFMU 2021).

The destruction of Junction Mill in 1896 created an opportunity for the City of River Falls to build a new hydroelectric plant at the mill site and provide electricity for the growing community. In 1900 the town council voted to build a municipally-owned hydroelectric plant at the former site of Junction Mill, which was recently freed from bankruptcy litigation (TRC 2020). Construction proceeded quickly as the town awarded construction contracts and site work commenced. The old Junction Mill dam was replaced with a new rock-crib and timber dam with a flume leading to a new, one-story brick powerhouse where the mill formerly stood. The powerhouse contained a single dynamo generating unit that was connected to newly-installed streetlamps throughout the City. On November 29, 1900, the dynamo was started, and electric light illuminated River Falls for the first time (TRC 2020). The City acquired ownership of the dam in 1900, creating River Falls Municipal Utilities (RFMU). The hydroelectric power electrified lighting, replacing gas lamps throughout the City.

2.2 Project Area of Potential Effect

In accordance with provisions of the PA (Appendix A), the Project APE is defined as follows:

- 1) Lands enclosed by the Project Boundary as delineated in the license;
- 2) Attached or associated buildings and structures extending beyond the Project Boundary, which contribute to the eligibility of the hydroelectric generating facility for listing on the NRHP; and
- 3) Lands or properties outside the Project Boundary, where the Project may cause changes in the character or use of historic properties, if any historic properties exist.

The Licensee conducted two studies to identify cultural resources eligible for listing on the NRHP in accordance with Section 106 of the NHPA. Studies were conducted for archaeological resources and architectural resources. The first step of the cultural resources studies was to determine the Project APE. The Licensee submitted a SHPO request for review of the proposed Project APE² as outlined on October 2, 2019. The Wisconsin SHPO concurred with the Project APE in a letter dated October 10, 2019, which was based on an approximate Project Boundary used for relicensing studies. The proposed Project Boundary as outlined in Exhibit G of the Final License Application has been revised since the 2019 APE determination to exclude lands not necessary for Project operation. The Licensee will use the revised Project Boundary as the new Project APE herein as depicted in Figure 2.2-1 below.

² This request included a review request for the Junction Falls APE (herein referred to as Project APE) and the Powell Falls APE. The Powell Falls Development will be decommissioned and removed from the FERC license, thus is not discussed herein.

Figure 2.2-1: Project Area of Potential Effect



2.3 Historic Architectural and Archaeological Resources within the Project APE

Under the NHPA and its implementing regulations (36 CFR §§ 800.1-800.16), the term "historic property" means any prehistoric or historic district, site, building, structure, or object, included in, or eligible for listing in, the NRHP. The term "historic property" also includes properties of traditional religious and cultural importance to an Indian Tribe that meets the National Register criteria.

2.3.1 Historic Architectural Resources in the Project APE

There are no historic architectural properties located within the Project APE that are listed or eligible for listing in the NRHP.

Junction Falls Hydroelectric Development

The Junction Mill (AHI #25348) was built in 1867 by Charles B. Cox and Dr. A. D. Andrews, two of the early settlers of the area (City of River Falls 2021a). The mill was the largest in the area. In the late 1800s, the City of River Falls was a major producer of flour, exporting over 11 million pounds to St. Louis via the Mississippi River (River Falls Journal 2021). At the end of the 1800s, the mill burned down in an alleged arson fire to collect on the insurance. In 1900, the Municipal Power Plant was built. All that remains of the 1867 mill is the smokestack (River Falls Journal 2021). The smokestack was designated a local historic structure on June 7, 2001 by the City of River Falls (City of River Falls 2019). However, a 2014 architectural history survey concluded that the building lacked historical integrity and would not meet NRHP criteria for significance.

Photos that depict the hydroelectric building are provided in Appendix C.

2.3.2 Archaeological Resources in the Project APE

There are no known archaeological sites nor NRHP-eligible archaeological sites located within the Project APE.

2.4 Historic Properties Inventory (PA Section I.A.)

In accordance with the PA pre-licensing procedure (PA Section I.A.), the Licensee did not identify Historic buildings, structures, and objects associated historically, structurally, spatially, or functionally with the Project and within the Project APE.

During the week of November 11, 2019, TRC conducted an architectural resources survey and evaluation for the Project. The architectural survey was completed in compliance with Section 106 of the National Historic Preservation Act of 1966 (as amended) as part of the FERC License

Application for the Project. Sufficient data were compiled during background research and survey to make recommendations regarding eligibility for listing in the NRHP for each resource addressed during this study (TRC 2020). The survey concluded that the Junction Falls Development (AHI # 25348) lacks sufficient integrity to express its association with historic events due to multiple modern alterations and lack of historical significance. It was therefore recommended that the Junction Falls Development is not eligible for the listing in the NRHP (TRC 2020).

By correspondence dated February 20, 2020, SHPO concurred with the findings from the Architectural Resources Survey and determined that properties within the Project APE are not eligible for inclusion on the NRHP. Table 2.4-1 below summarizes the Architectural Sites Affiliated within the Project APE.

Table 2.4-1: Architectural Sites Affiliated with the Project APE

AHI Number	Name	Construction Dates	NHRP Status/Recommendation
25348	Junction Mill	1867; 1900; 1928; 1947; 1962; 1971; 1989; 1998; 2017	Not Eligible

2.5 Archaeological Properties Inventory (PA Section I.B.)

In accordance with the PA pre-licensing procedure (PA Section I.B.), Project shoreline areas within the Project APE are to be surveyed by the Licensee to identify potential archaeological sites currently subject to erosion. The Licensee conducted an Archeological Survey for lands within the Project APE on July 27-30, 2020.

Literature and archives research were conducted prior to beginning archaeological fieldwork. The WHPD does not show any archaeological sites in or adjacent to the Project APE. The WHPD has records for two prior archaeological surveys that were completed within the Project APE as outlined in Table 2.5-1 and described below.

Table 2.5-1: Archaeological Surveys in the Project APE

Survey Number	Survey Location	Location
83-0805	Kinnickinnic River Bridge Alternative, City of River Falls	Project APE
15-1089	Kinnickinnic River Recreation Trail, Heritage Park to West Division St.	Project APE
NA*	Lake George Shoreline	Project APE

Source: TRC 2021

* The July 27-30, 2020 Archaeological Phase I survey has not been designated an WHS Survey number as of the date of this HPMP.

In 1984, an archaeological survey (Wisconsin Historical Society (WHS) #83-0805) for a proposed Kinnickinnic River Bridge Project surveyed an approximate 200-foot-long right of way covering about one half acre. No cultural resources were found, and no additional archaeological work was recommended (Barth 1984).

In 2015, a Phase I archaeological survey (WHS #15-1089) was conducted for a proposed extension to the City of River Falls Kinnickinnic River Recreation Trail from Heritage Park to West Division Street in the City (Hodgson 2015). The survey area was along the urbanized north bank of the Kinnickinnic River that was noted to contain fill and disturbed soils that had been graded. The archaeologist discovered that the area was extensively reworked and found no artifacts. Nothing of archaeological interest was found and no additional archaeological work was recommended.

On July 27-30, 2020 a Phase I Archaeological Resources Survey was conducted of the Lake George shoreline and lands within the Project APE. The Phase I Archaeological Survey examined the shoreline of Lake George and conducted shovel testing, as needed, and lands within the Project APE for archaeological sites that may be affected by Project operations. Shovel tests were dug, where possible, in areas with less than 25 percent slope and dry soil. Most of the land associated with the shoreline was above the river along the shoreline edge, with sand and gravel bars at the base of the sloping shoreline. Part of the shoreline inspection requirement was to identify archaeological sites that might be affected by erosion. Archeologists did not encounter any areas of erosion and described the shoreline as well-vegetated and stable. The survey encountered areas of disturbance caused by recreational facilities development, but no archeological sites or artifacts were found. Shovel testing did not encounter any artifacts (TRC 2021).

3.0 PROJECT MANAGEMENT AND PRESERVATION GOALS AND PRIORITIES

There are no known historic properties (any prehistoric or historic district, site, building, structure, or object, included in, or eligible for listing in, the NRHP) located within the Project APE. RFMU has outlined the following six goals for managing historic properties (should any such sites or properties be identified in the future) within the Project's APE. These goals are reflected in management measures.

1. Ensure continued normal operation of the Project while maintaining the integrity of historic properties within the Project APE.

In coordination and consultation with Wisconsin SHPO, RFMU is committed to managing historic properties in a responsible manner that maintains their integrity while not impeding the Project's safe and efficient production of energy and the management of the Project's lands and resources.

2. Avoid or mitigate adverse effects of Project operation to historic properties within or outside of the Project APE.

To the extent practical, RFMU is committed to the policy of management in place, or avoidance of adverse effects on historic properties. If adverse effects cannot be avoided, RFMU will mitigate the adverse effects to the extent practical in coordination and consultation with the Wisconsin SHPO.

3. Maintain confidentiality regarding archaeological sites and properties of traditional religious or cultural importance.

The NHPA protects information regarding the location, character, or ownership of sensitive historic properties from public disclosure. While RFMU will continue to share information regarding archaeological sites and properties of traditional or cultural importance (should such sites or properties be identified in the future) with the Wisconsin SHPO, Tribes, and FERC, RFMU will maintain confidentiality and will not disclose this information to the public unless approved in advance by the Wisconsin SHPO and FERC.

4. Practice good stewardship of historic properties by providing training to appropriate RFMU personnel.

RFMU will train appropriate personnel in the consideration of the management of historic properties and the requirements of Section 106 of the NRHP and will update this training on a regular basis. RFMU will provide the Wisconsin SHPO with contact information for its HPMP Coordinator for the purpose of communication with the Wisconsin SHPO.

5. Ensure historic properties are managed in a way that does not impede RFMU's ability to comply with the terms of its operating license and other applicable Federal, State, and local regulations.

The FERC and the ACHP have recognized that the effective management of historic properties is not intended to turn hydroelectric projects into "museums" or to jeopardize the ability of a licensee to fulfill all of the authorizations, terms, and conditions of a license or other regulations. Accordingly, RFMU's management of historic properties within the Project APE will be consistent with all other requirements of the license and with applicable Federal, State, and local codes and regulations.

6. Coordinate the management of historic properties with RFMU's management of other resources associated with the Project.

RFMU will coordinate measures with the management of historic properties in a manner that ensures compliance with the HPMP and is consistent with implementation of other license requirements. RFMU is not responsible for properties owned by other parties and cannot control the maintenance or preservation of those properties.

4.0 MEASURES TO PROTECT HISTORIC RESOURCES

The following procedures apply to the management of historic and archaeological properties (should any such sites or properties be identified in the future) for the term of the license.

4.1 Future Project Effects

The Licensee will consult with the Wisconsin SHPO prior to conducting any planned, non-emergency, maintenance or construction activities that have the potential to adversely affect historic properties in the Project APE of the proposed undertaking in accordance with the management measures set forth below. In the event of an emergency undertaking that requires major project modifications, RFMU will notify the Wisconsin SHPO as soon as circumstances permit but not more than 7 days following the emergency. Notification will explain any major modifications to historic properties required to cope with the emergency.

4.2 Designation of RFMU Representative

A RFMU administrator, or designee, will be responsible for integrating measures specified in this HPMP into facility decision-making. The designee will also identify potential conflicts and implement procedures for resolving these conflicts.

4.3 Qualifications of Historians and Archaeologists

All Project activities requiring an archaeologist or historian, as defined in the HPMP, will be completed by, or under the direct supervision of, a person or persons whose qualifications meet the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (NPS 1983).

4.4 Measures to Protect Historic Properties

Historic properties within the Project APE owned by RFMU (should any such sites or properties be identified in the future) are subject to management under this HPMP. According to the PA, Licensees will operate and maintain National Register-eligible hydroelectric generating facilities. The Licensee is not responsible for properties owned by other parties and cannot control the maintenance or preservation of those properties. Management measures for Project-related historic architectural resources are described below.

(1) Management of River Falls Hydroelectric Project (PA Section II.D.)

- a) The Junction Falls Development is not eligible for listing on the NRHP, nor are any other structures within the Project APE. As such, the in-place preservation of historic hydroelectric generating facilities and other structures outlined in Section

II.D of the PA do not apply to this Project. The primary thrust of the management plan for the hydroelectric facility is to preserve it in the current operational condition to the greatest extent possible. This approach will be undertaken in consideration of the need to operate the Project in a safe and efficient manner. The removal or alteration of any historic material or distinctive architectural feature will be avoided when possible. Deteriorated features will be repaired, rather than replaced, wherever possible. Surface cleaning of the structure will be undertaken with care.

- b) The Licensee will continue routine maintenance and replacement in-kind of Project facilities with no direct consultation with the Wisconsin SHPO.

4.5 Measures to Protect Archaeological Properties

Management measures for archaeological resources are described below. As discussed in Section 2.3.2, there are no known archaeological sites in the Project APE. Ground-disturbing activities have the potential to affect both previously identified and yet to be identified archaeological resources. The management measures are designed to avoid or minimize adverse effects to any yet to be identified archaeological resources.

(1) Shoreline Monitoring (PA Section II.B.1.)

- a) There are no previously identified archaeological properties in the Project APE. Portions of the shoreline within the Project APE is disturbed and contains sections of earthen fill and concrete. The majority of the shoreline is comprised of low elevation floodplains or forests and is relatively stable. Therefore, it is safe to assume that no archaeological resources are present in the Project APE due to the disturbed nature and floodplain status of the land surrounding the impoundment. For these reasons, shoreline monitoring is not necessary and no further archaeological work is recommended. If archaeological material is discovered, however, the Licensee will notify the Wisconsin SHPO and follow the protocol outlined in Section 6 regarding late discovery.

If there are changes to the Project APE or operations that would impact any archaeological sites, the Licensee in consultation with the Wisconsin SHPO will determine the need for additional site inspections during the term of the new license.

(2) Unsurveyed Lands within the Project Boundary (PA Section II.B.2.)

- a) The PA requires consultation with the Wisconsin SHPO regarding the need for an archaeological and/or historic survey on unsurveyed lands that are not normally

inundated at least 45 days prior to conduct of significant ground-disturbing activities that have the potential to damage or destroy as-yet unidentified properties possibly eligible for the NRHP. Significant ground-disturbing activities may include, but are not limited to, land management, timber management, recreational development, and lease or sale. There are no unsurveyed lands that are not normally inundated associated with the Project APE, thus consultation prior to ground disturbance is not proposed.

- b) The Project Boundary encompasses 15.3 acres of water. If the Project requires a dewatering or a significant drawdown, the Licensee will consult with the Wisconsin SHPO regarding the need for an archaeological and/or historic survey at least 45 days prior to dewatering or significant drawdown. Such consultation will include a summary of the proposed activity associated with the drawdown, and a map showing its proposed location.

The Licensee understands that if significant drawdown occurs, an archaeological survey may be required on previously unsurveyed lands within the Project APE that are normally inundated by Project waters. If required, the surveys will be conducted by a qualified archaeologist and/or historian in the planning stage of any proposed ground-disturbing activities. Surveys will be conducted during the planned period of the drawdown or dewatering so as not to cause, occasion, or prolong a period of drawdown or dewatering.

- c) The Licensee will comply with the procedure as described in the PA Section II.B.2.c. in regard to archaeological properties on Private Property to which the Licensee may be unable to gain access to conduct archeological research.

(3) Archaeological Properties on Non-Managed Lands within the Project Boundary (PA Section II.B.3.)

- a) As described in the PA, previously-recorded archaeological properties on lands for which no ground-disturbing activities are contemplated are to be listed in this HPMP. There are no previously identified archaeological sites located within the Project APE.

(4) In-Place Preservation at Shorelines (PA Section II.C.)

- a) As discussed in Section 2.3.2, there are no known archaeological properties in the Project APE. Portions of the shoreline adjacent to the Project is disturbed and contains sections of earthen fill and concrete. The majority of the shoreline is comprised of low elevation floodplains or forests and is relatively stable.

Significant erosion is not known to occur at the Project. Should historic properties be identified in the future, RFMU would follow the guidelines for in-place preservation at shorelines outlined in Section II.C of the PA.

(5) Treatment of Human Remains

- a) RFMU will ensure that the treatment and disposition of human remains and grave-associated artifacts that may be discovered are treated according to Section 157.70, Wisconsin Statutes, and take into account the ACHP's *Policy Statement Regarding Treatment of Human Remains and Grave Goods* (September 27, 1988, Gallup, NM). If Native American cultural items are discovered on federal lands, compliance with the Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C., Section 3001) is required; however, there are no federal lands in the Project APE.

(6) Procedure to Address Unanticipated Discovery of Historic Properties

- a) In the event that new discoveries of historic resources, including archaeological sites, are identified during the duration of the license, RFMU will halt all land-disturbing activities in the vicinity of the newly-discovered resource and will notify and consult with the Wisconsin SHPO. Previously unknown sites may be reported as a result of a planned or unplanned activity. The Licensee will develop and implement actions that take into account the effects of the undertaking on the property to the extent feasible. RFMU will provide the Wisconsin SHPO with a description of the proposed actions and request comment.

5.0 PUBLIC INVOLVEMENT AND INTERPRETATION

5.1 Public Involvement

In accordance with Section III.D. of the PA, RFMU will consult with the Wisconsin SHPO and the FERC to determine whether interested persons, as defined at 36 CFR, Part 800, at Section 800.1 (c)(2), should be consulted regarding effects to historic properties. If it is determined that interested persons should be informed, RFMU will initiate discussions by sending letters to the potentially interested parties.

5.2 Public Interpretation

Section II.E. of the PA states: “In their HRMPs, Licensees will propose, in detail, ways to interpret Historic Properties for the benefit of the public.”

The City of River Falls values the preservation of history and makes this information available to the public. The City has Historic Preservation Municipal Code Standards and a Historic Preservation Commission, which meets monthly. The City conducted a Historical and Architectural Resources Survey and has developed a Historic Preservation Plan (City of River Falls 2015), both of which describe the Junction Mill as a locally designated landmark (City of River Falls 2019) and are available on the City’s website (City of River Falls 2021b).

6.0 HPMP REPORTING AND REVIEW PROCEDURES

Section III.B of the PA states that Licensees will submit annual reports to the Wisconsin SHPO and the FERC. As there are no identified historic resources in the Project APE, RFMU requests reporting only when activities affect the HPMP. RFMU will file a report, as needed, with the FERC and the Wisconsin SHPO outlining all planned or undertaken activities associated with the implementation of the HPMP.

The HPMP may be updated and/or revised as appropriate to improve administration of the HPMP. RFMU will consult with the Wisconsin SHPO regarding any proposed amendments to the HPMP.

7.0 REFERENCES

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APPENDIX A
PROGRAMMATIC AGREEMENT

**PROGRAMMATIC AGREEMENT AMONG
THE FEDERAL ENERGY REGULATORY COMMISSION,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION,
THE STATE OF WISCONSIN, STATE HISTORIC PRESERVATION OFFICER, AND
THE STATE OF MICHIGAN, STATE HISTORIC PRESERVATION OFFICER,
FOR MANAGING HISTORIC PROPERTIES
THAT MAY BE AFFECTED BY NEW AND AMENDED LICENSES ISSUING
FOR THE CONTINUED OPERATION OF
EXISTING HYDROELECTRIC PROJECTS IN
THE STATE OF WISCONSIN
AND ADJACENT PORTIONS OF
THE STATE OF MICHIGAN**

I. Pre-Licensing Procedure

The following steps will be completed by Licensees before tendering the commission an application, in consultation with the Wisconsin SHPO, and in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (published in the Federal Register, Vol. 48, No. 190, pages 44716 through 44742; hereinafter, "Secretary's Standards")¹. Moreover, these steps will be completed by or under the direct supervision of a person or persons whose qualifications at least meet the Secretary's Standards, as applicable to the relevant preservation discipline.

A. Identification of Historic Buildings, Structures, and Objects:

Licensees will identify Historic buildings, structures, and objects associated historically, structurally, spatially, or functionally with their Projects and within their Projects' Areas of Potential Effects² (hereinafter, "APE"). Upon completing this identification, Licensees will submit two copies of the resulting reports, prepared in accordance with these guidelines, Architecture/History Survey Report Specifications For Compliance-Driven Surveys,³ to the Wisconsin SHPO pursuant to 36 CFR, Part 800, at Section 800.4.

B. Identification of Archaeological Properties:

Licensees will survey Project shoreline areas within their APEs, except that no Licensee will be required by the stipulations of this Programmatic Agreement to survey shoreline areas within another Licensee's Project boundary, to identify archaeological sites currently subject to erosion,

¹ See Appendix One of this Programmatic Agreement

² For the purposes of this Programmatic Agreement, the APE for Projects for which a new or amended license issues, as APE is defined in 36 CFR, Part 800, at § 800.2(c), includes all the following: (a) lands enclosed by the project boundary as delineated in the existing License, (b) attached or associated buildings and structures extending beyond the project boundary, which contribute to the National Register for Historic Places eligibility of the hydroelectric generating facility, (c) lands or properties outside the project boundary where the project may cause changes in the character or use of Historic Properties, if any Historic Properties exist.

³ See Appendix Two of this Programmatic Agreement

in accordance with the Wisconsin Archaeological Survey Guidelines For Conservation Archaeology in Wisconsin; ⁴ prepare reports based on the results of these surveys; and submit these reports, in duplicate copies, along with all appropriate documentation to the Wisconsin SHPO for review and comment. All supporting photographic documentation will be submitted as original prints.

C. Evaluation of Identified Properties

Licensees will apply the Criteria of Evaluation, 36 CFR, Part 60, at section 60.4, and, as appropriate, the principles set forth in Hydroelectric Development in the United States, 1880-1940,⁵ to every historic building, structure, object, and archaeological property identified in fulfillment of this Part of this Programmatic Agreement, in accordance with 36 CFR, Part 800, at Section 800.4.

1. For each individual property to which the Criteria of Evaluation is applied the Licensee will report its results in written form. For each individual property that the Licensee finds to be eligible for listing on the National Register of Historic Places, the Licensee will report these results on a National Park Service Form 10-900; (hereinafter, "Form").

2. Licensees will complete the Forms according to National Register Bulletin Nos. 15 and 16, and the Wisconsin Supplementary Manual,⁶ and submit to the Wisconsin SHPO an original and two copies of each Form completed, with other supporting materials. Other supporting materials will include the following:

a. For archaeological properties, Licensees will include a professionally-written report detailing the results of the Phase I Survey, stipulated at Part I.B, herein, describing any analysis and interpretation of the data undertaken subsequent to the Phase 1 Survey.

b. Licensees will include all supporting photographic documentation, as original prints, for each of the three copies submitted to the Wisconsin SHPO, submitted as physically separate documents.

c. Licensees will include a cover letter summarizing the Licensee's determination of eligibility for each of the properties documented on the Forms.

3. Licensees may avoid this requirement for eroding archaeological properties by consulting with the Wisconsin SHPO and employing means acceptable to the Wisconsin SHPO for stabilizing such properties and preserving them in place.

4. Licensees may seek additional assistance in the evaluation of archaeological properties from National Register Bulletin Nos. 12,36, and 38.

5. If the Wisconsin SHPO deems the documentation to be incomplete, the Wisconsin SHPO may return it to the Licensee to be revised. If the Wisconsin SHPO deems the documentation complete, the Wisconsin SHPO will apply the Criteria for Evaluation, 36 CFR, Part 60, at Section 60.4, in accordance with 36 CFR, Part 800, at Section 800.4; sign the completed Form finalizing the

⁴ See Appendix Three of this Programmatic Agreement

⁵ This reference is to a 1991 nationwide historic context on the development of hydroelectric power generation by Dr. Duncan Hay, for the Edison Electric Institute. See Appendix Four of this Programmatic Agreement for the relevant portions of this document.

⁶ See Appendix Five of this Programmatic Agreement.

determination of eligibility; retain the original Form; and return the two signed copies to the Licensee.

6. The Licensee will file a copy of the completed Form bearing the Wisconsin SHPO's signature with the Commission, for information, with all supporting materials.

II. Post Licensing Procedure

In fulfilling the requirements of this Part of this Programmatic Agreement, Licensees, in consultation with the Wisconsin SHPO, will address all issues regarding Historic Properties that were not resolved prior to a license's issue, and will ensure that Historic Properties are considered in the continued operation and maintenance of hydroelectric facilities during the term of their licenses in accordance with the following stipulations. To further this purpose, Licensees will develop Historic Resources Management Plans (hereinafter, "HRMP").

A. Interim Procedures

Until a Licensee's HRMP has been approved, the Licensee will comply with 36 CFR, Part 800, at Sections 800.4 through 800.6, with respect to any proposed ground disturbing activities.

B. Historic Resources Management Plan

Each Licensee, within one year of a license issuing, will develop an HRMP that addresses each of the following subjects, or that provides documentation sufficient to justify any omissions, based on the irrelevance of the omitted subject. The Licensee will file one copy of the HRMP with the Commission and one with the Wisconsin SHPO for review. If the Wisconsin SHPO agrees with the HRMP, the Licensee will implement it.

1. Shoreline Monitoring: The HRMP will include a procedure for monitoring the Project shoreline on a periodic basis and reporting the results of monitoring by submitting an archaeological in two copies to the Wisconsin SHPO. If archaeological properties are identified during the monitoring, the Licensee will implement Part I.C, herein.

2. Unsurveyed Lands Within the Project Boundary: At Projects where no prior archaeological surveys has been conducted, including lands normally inundated by the Project reservoir and property owned by someone other than the Licensee (hereinafter, "Private Property"), the HRMP will include the following procedures:

a. For unsurveyed lands that are not normally inundated by the project reservoir, the Licensee will include one of the following procedures in the HRMP.

(1) The Licensee may include a procedure for ensuring that an archaeological survey is conducted in the planning stage of any significant ground-disturbing activity (including, but not limited to, land management, timber management, recreational development, and lease or sale) proposed to be carried out by the Licensee on these lands that may disturb Historic Properties.

(2) Alternatively, the Licensee may include a procedure for completing archaeological surveys for these lands within ten years of the date the license issues.

b. For unsurveyed lands that are normally inundated by the project reservoir, the HRMP will include a procedure for developing appropriate methods and techniques to identify Historic Properties which become accessible during periods of Project reservoir drawdown or dewatering, and a tentative schedule for conducting the surveys. Fulfilling this requirement will not cause, occasion, or prolong a period of drawdown or dewatering.

c. The Licensee, in the HRMP, will include the following procedure for taking into account effects to archaeological properties on Private Property to which the Licensee may be unable to gain access to conduct archaeological research.

(1) The Licensee, if unable to gain access to Private Property to conduct archaeological research, will notify the Wisconsin SHPO of the inability to gain access, identifying the property owners by name and address.

(2) The Licensee will provide the Wisconsin SHPO with a copy of all relevant correspondence demonstrating the Licensee's reasonable attempts to gain access for the purpose of conducting archaeological research.

(3) The Licensee will furnish the Wisconsin SHPO with a copy of the appropriate USGS topographic map showing the exact location of the Private Property.

(4) The Licensee, in the event shoreline monitoring, conducted pursuant to Part II.A.1 (Note: no such paragraph, should be II.B.1 - TLY), herein, discloses a change in an archaeological site located on Private Property to which the Licensee has been unable to gain access for conducting archaeological research, or if the Licensee learns that the ownership or control of such Private Property is transferred, will make further attempts to gain access and inform the Wisconsin SHPO of these attempts and of their results.

3. Archaeological Properties on Non-Managed Lands Within the Project Boundary: Previously-recorded archaeological properties on lands for which no ground-disturbing activities are contemplated (hereinafter, "Non-managed Lands") will be listed as such in the HRMP.

C. In-Place Preservation At Shorelines:

In general, Licensees will give priority to preserving Historic Properties in place through shoreline stabilization, in developing HRMPs, and may use shoreline stabilization for other purposes.

1. Shoreline Stabilization: Where stabilization efforts may disturb Historic Properties, the Licensee will describe or specify the type of stabilization proposed, such as placement of rip-rap or revegetation, the provisions for archaeological data recovery, if any are warranted, and a budget and a schedule for implementing the plan. If the Wisconsin SHPO does not respond within forty-five days of receiving the submission, or responds with no objections to the Licensee's plan, the Licensee will implement the plan.

2. Data Recovery Plans: Where preservation in place is deemed not to be feasible and data recovery is found to be necessary, Licensee's will develop all plans for recovering archaeological data in consultation with the Wisconsin SHPO, ensure that such plans are consistent with the Secretary's Standards and generally consistent with, Treatment of Archaeological Properties (Advisory Council on Historic Preservation, 1980). Archaeological data recovery plans will, at a minimum, include the following information.

- a. The Licensee will identify the property, properties, or portions of properties where data recovery is to be carried out, as well as any property, properties, or portions of properties that will be destroyed or already have been affected without the benefit of data recovery.
- b. The Licensee will specify the research questions that are to be addressed through data recovery and explain their relevance and importance.
- c. The Licensee will specify the means to recover, analyze, manage, and disseminate data to the professional archaeological community and the general public, and, explain the relevance of these means to the research questions; involve the interested public in the data recovery project; and, as appropriate, keep Indian tribes informed of the data recovery project and afford them the opportunity to participate
- d. The Licensee will include a schedule for implementing the data recovery plan.
- e. The Licensee will include a plan for the disposition of recovered materials and records, according to Part IV.D. herein.
- f. The Licensee will propose a schedule for submitting progress reports to the Wisconsin SHPO, where such reports are appropriate.

3. Implementing a Data Recovery Plan: *The Licensee will submit the data recovery plan to the Wisconsin SHPO and, if the Wisconsin SHPO does not object within 30 days, implement the data recovery plan at the earliest opportunity.*

4. Final Reports of Data Recovery: *After a data recovery plan has been implemented, the Licensee will submit two copies of a final report detailing the results of the data recovery efforts to the Wisconsin SHPO for review and approval.*

D. In-Place Preservation of Historic Hydroelectric Generating Facilities and Other Structures:

Licensees will operate and maintain National Register eligible hydroelectric generating facilities (hereinafter, "Facilities") according to 36 CFR, Part 67, Guidelines for Rehabilitating Historic Buildings (revised 1990), and applicable National Park Service Preservation Briefs.

1. *During the term of a license, the Licensee will take every reasonable precaution to preserve Facilities as Historic Properties; guarantee their integrity of design, materials, workmanship, location, setting, feeling, and association to the extent that each of these qualities is relevant to National Register eligibility; and ensure public safety. To further these purposes, Licensees will adhere closely to the following guidelines.*

2. *Specifically, Licensees will avoid destroying, demolishing, or otherwise altering their Facilities, any distinguishing qualities or characters of their Facilities, or any stylistic features or examples of skilled craftsmanship which may characterize their Facilities. Licensees will similarly avoid such effects on their Facilities' environments within the Projects' boundaries. Licensees will avoid damage to their Facilities resulting from cleaning surfaces, and will repair rather than replace deteriorated features of their facilities.*

3. *The Licensee proposing to alter its Facilities or its Facilities' environment contrary to the clear aim and intent of this Programmatic Agreement to preserve intact such Facilities and their environments, may do so only upon notice of any such proposal given to the Wisconsin SHPO and the Secretary of the Commission.*

- a. The Licensee will afford the Wisconsin SHPO and the Commission forty-five days, commencing on the date on which they all receive the notice of such proposal, to review the notice of such proposal, during which time the Licensee will take no actions that would foreclose the Wisconsin SHPO's and the Commission's full opportunity to object.
- b. The Licensee will attach to the notice of such proposal such plans and specifications for such proposal as the Wisconsin SHPO and the Commission may require, and will respond with such further or clarified plans and specifications as the Wisconsin SHPO or the Commission may request. Required plans and specifications will include a description of the proposed undertaking, including relevant photographs and other needed documentation; a description of alternatives and mitigation measures, both considered and proposed; and a project plan and schedule.
- c. If, after this forty-five days, there is no objection, the Licensee may implement the plans and specifications. Any party desiring to object within forty-five days will do so according to Part V.B, herein.

4. In cases of emergency, Licensees will respond in a manner ensuring public safety, and will notify the Wisconsin SHPO as soon as circumstances permit, but not more than seven days following the emergency, to explain any major modifications to Historic Properties required to cope with the emergency.

5. Licensees will not be required to seek the Wisconsin SHPO's comments for completing routine repair and replacement in kind at their Facilities. Such routine repair and replacement in kind includes concrete repair work, maintenance and overhaul of existing generating and hydraulic equipment (except for equipment identified in the Form as a contributing element to its Facilities' National Register eligibility), maintenance of existing buildings and structures, dike repair and maintenance, maintenance and improvement of electrical systems, replacement of substation and transmission components, compliance with Commission mandated safety improvements not requiring structural modifications, development and maintenance of exterior public recreational components not requiring structure modifications, and placement and maintenance of public safety devices and signs.

6. Facilities that, at the time of licensing, are not National Register eligible, but become eligible, will become subject to the stipulations of this Programmatic Agreement as of the time they become eligible.

E. Public Interpretation

In their HRMPs, Licensees will propose, in detail, ways to interpret Historic Properties for the benefit of the public.

III. Compliance Monitoring, Reports, And Public Involvement

The purpose of this Part is to ensure compliance with the stipulations of this Programmatic Agreement through reporting.

A. Compliance Monitoring:

The Commission and the Wisconsin SHPO have the right to monitor activities carried out pursuant to this Programmatic Agreement, and the Council will review such activities if

requested. Licensees will cooperate with the Commission and the SHPO in carrying out this responsibility.

B. Annual Reports:

Licensees, on January 31 of every year, will submit annual reports to the Wisconsin SHPO and the Commission outlining all activities associated with implementing the HRMP and this Programmatic Agreement, and undertaken in the preceding year and planned during the ensuing year.

C. Archaeological Report Dissemination:

Licensees will submit all archaeological reports prepared according to the terms of this Programmatic Agreement to the Commission and the Wisconsin SHPO within six months of completing the report. Upon receiving written request, the Licensee may furnish copies of reports to other interested parties. The licensee will ensure that precise locational data is withheld if it appears that its release might jeopardize Historic Properties (See National Register Bulletin No. 29).

D. Public Involvement:

Licensees will consult with the Wisconsin SHPO and the Commission to determine whether interested persons, as defined at 36 CFR, Part 800, at section 800.1(c)(2), should be informed of effects to Historic Properties.

IV. Treatment of Human Remains and Grave-Associated Artifacts; Curation of Archaeological Collections, Notes, Maps, and Other Documentation; and Compliance with the Native American Graves Protection and Repatriation Act

Licensees will ensure that the following stipulations are implemented.

A. Tribal Reservations and Lands of the United States:

Licensees will ensure that all human remains and other cultural items⁷ encountered on lands embraced within the exterior boundaries of Indian Reservations or in dependent Indian communities (hereinafter, "Tribal Lands") or lands controlled or owned by the United States

⁷ NAGPRA defines "cultural items" as (a) human remains, (b) funerary objects "reasonably believed" to have been associated with human remains or, "by a preponderance of the evidence," a specific burial site, (c) sacred religious objects, and (d) cultural patrimony, defined as material remains of "historical, traditional, or cultural importance to the Native American group or culture itself" "Unassociated" funerary objects were, according to the Senate Select Committee report accompanying NAGPRA, specifically excluded from its protections.

(hereinafter, "U.S. Lands") are treated in accordance with the Native American Graves Protection and Repatriation Act (hereinafter, "NAGPRA"), 25 U.S.C. Section 3001, et seq.

1. *NAGPRA creates rights for certain parties that go beyond the right to merely be consulted, set forth in the Act, that are pertinent to the inadvertent discovery, intentional removal, ownership, and repatriation of human remains and other cultural items recovered from Tribal and U.S. Lands. Thus archaeological data recovery and similar mitigative actions developed pursuant to the Act must also meet NAGPRA requirements when they occur on Tribal or U.S. Lands.*

2. *Licensees using Tribal or U.S. Lands for purposes requiring the issuance of a license, will, within one (1) year of such a license issuing, prior to and apart from the discovery of any human remains or other cultural items, identify the following items in consultation with the Wisconsin SHPO.*

- a. the specific Native American organizations with a proprietary interest in any human remains and other cultural items that may be encountered or recovered,
- b. the kinds of artifacts that will be considered to be cultural items as defined in NAGPRA, including associated and unassociated funerary objects, sacred objects, or objects of cultural patrimony,
- c. the kinds of analysis and curation to which the material will be subjected, along with a schedule for any disposition of the material, and
- d. a specific course of action to be taken if human remains and other cultural items are encountered unexpectedly during project operation or project development, including recreational development.

3. *Before excavating or removing discovered human remains or other cultural items from U.S. Lands, the licensee will make every reasonable effort to protect the property and consult with the appropriate Native American groups. The Licensee will secure the consent of the appropriate Native American groups before removing any human remains or other cultural items from Tribal Lands.*

B. Consistency with NAGPRA's Purpose:

Licensees will ensure that any action taken is consistent with NAGPRA's purpose of protecting Native American's interred human remains and other cultural items.

C. Other than Tribal and U.S. Lands:

Licensees will ensure that all human remains and grave-associated artifacts encountered on lands that are neither Tribal nor U.S. Lands are treated according to Section 157.70, Wisconsin Statutes, with consideration given to the Council's policy on treatment of human remains.

D. Curation of Archaeological Collections, Notes, Maps, and Other Documentation:

Licensees will ensure that, except as otherwise required above, all artifacts, notes, records, reports, maps, and any other type of documentation that are, respectively, recovered, written, made, drawn, or otherwise generated according to this Programmatic Agreement, are curated in the State of Wisconsin, unless the Michigan SHPO specifically requests that items pertaining to Michigan be delivered to the Michigan SHPO for curation, in a facility that meets the requirements of 36 CFR, Part 79, insofar as this purpose can be achieved consistent with the rights of Private Property owners.

V. Dispute Resolution

A. Foundational Considerations:

The Commission alone is statutorily mandated to ensure compliance with the National Historic Preservation Act and the Federal Power Act, notwithstanding this or any other Programmatic Agreement.

- 1. In all matters arising under this Programmatic Agreement, the Commission reserves to itself the sole right and authority to determine, consistent with the Council's regulations, the means of taking into account the effects of undertakings on Historic Properties, and, consistent with its own regulations, the best adapted use of a waterway.*
- 2. Neither this Programmatic Agreement, nor any part of it will be interpreted to give any other party this right or authority.*
- 3. While a Licensee may implement measures and adopt findings, where a consensus with the SHPO for such measures or findings is found to exist, a Licensee's right to seek the Commission's resolution of any matter disputed between it and any other party to this Programmatic Agreement will not be abridged.*

B. Procedures:

If the SHPO, a Licensee, Licensees or the Council objects to any action or failure to act on the part of any party to this Programmatic Agreement, any Licensee, or Licensees within 45 days of such action or failure to act, the objecting party, Licensee, or Licensees will file written objections to the Commission.

- 1. The Commission will consult with the Parties any interested parties, Licensee, or Licensees to resolve the objection.*
- 2. The Commission may initiate sua sponte such consultation to resolve any of its objections to actions or to failure to act on the part of any Party, Licensee, or Licensees.*

C. Council Comments:

If the Commission determines that the matter cannot be resolved by consultation, the Commission will request the Council's further comments pursuant to 36 CFR Part 800, at Section 800.6(b).

1. *Any Council comment provided in response to such a request will be taken into account by the Commission in accordance with 36 CFR, Part 800, at Section 800.6(c)(2), with reference to the subject of dispute.*
2. *After consultation and review of written responses the Commission will issue a decision on the matter.*

D. Status of Actions Not in Dispute:

The Commission's responsibility to carry out all actions under this Programmatic Agreement that are not the subject of dispute will remain unchanged.

VI. Executing, Amending, and Terminating this Programmatic Agreement

This Programmatic Agreement will continue in full force and effect in its present form until it is amended or terminated.

A. Execution:

Execution and implementation of this Programmatic Agreement evidences conclusively that the Commission has satisfied its Section 106 responsibilities for all individual projects in the State of Wisconsin or the States of Wisconsin and Michigan issued new or amended licenses after the date whereon the Programmatic Agreement is executed.

B. Amending this Programmatic Agreement:

1. *The Commission, the Wisconsin SHPO, the Michigan SHPO, the Council, or any interested party may request an amendment to this Programmatic Agreement, whereupon the Parties will consult in accordance with 36 CFR Part 800, at Section 800.13.*
2. *This Programmatic Agreement will be amended only upon the agreement of the Commission, the Wisconsin SHPO, the Michigan SHPO, and the Council.*
3. *Historic Properties affected by a new license issued to Wisconsin Power & Light for its continued operation of the Shawano Project, Project No. 710, in Shawano and Menominee Counties, are protected under a Programmatic Agreement for that project. Some of those Historic Properties are on lands belonging to the Menominee Indian Tribe of Wisconsin. If the Programmatic Agreement for the Shawano Project is terminated or amended with the result that the Shawano Project is administered under this*

Programmatic Agreement, the Parties will consult together and with the Menominee, both directly and through counsel, to amend this Programmatic Agreement sufficient to afford their interests in Historic Properties located on their lands protection equal or superior to that stipulated in the Programmatic Agreement for the Shawano Project alone.

C. Terminating this Programmatic Agreement:

The Commission, the Wisconsin SHPO, the Michigan SHPO, or the Council may terminate this Programmatic Agreement by giving notice to the Parties at least thirty days before the desired termination date, provided that the Parties will have consulted in good faith before notice is given to avoid termination by amendment or by other actions.

Federal Energy Regulatory Commission

Original signed by Fred E. Springer, Director, Office of Hydropower, 12/1/93

Advisory Council on Historic Preservation

Original signed by Robert D. Bush, Ph. D., Executive Director, 12/30/93

State Historical Society of Wisconsin

Original signed by Jeff Dean, State Historic Preservation Officer, 12/16/93

Michigan Department of State, Bureau of History

Original signed by Dr. Kathryn Eckert, State Historic Preservation Officer, 12/20/93

APPENDIX B

SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION AND GUIDELINES FOR REHABILITATING HISTORIC BUILDINGS

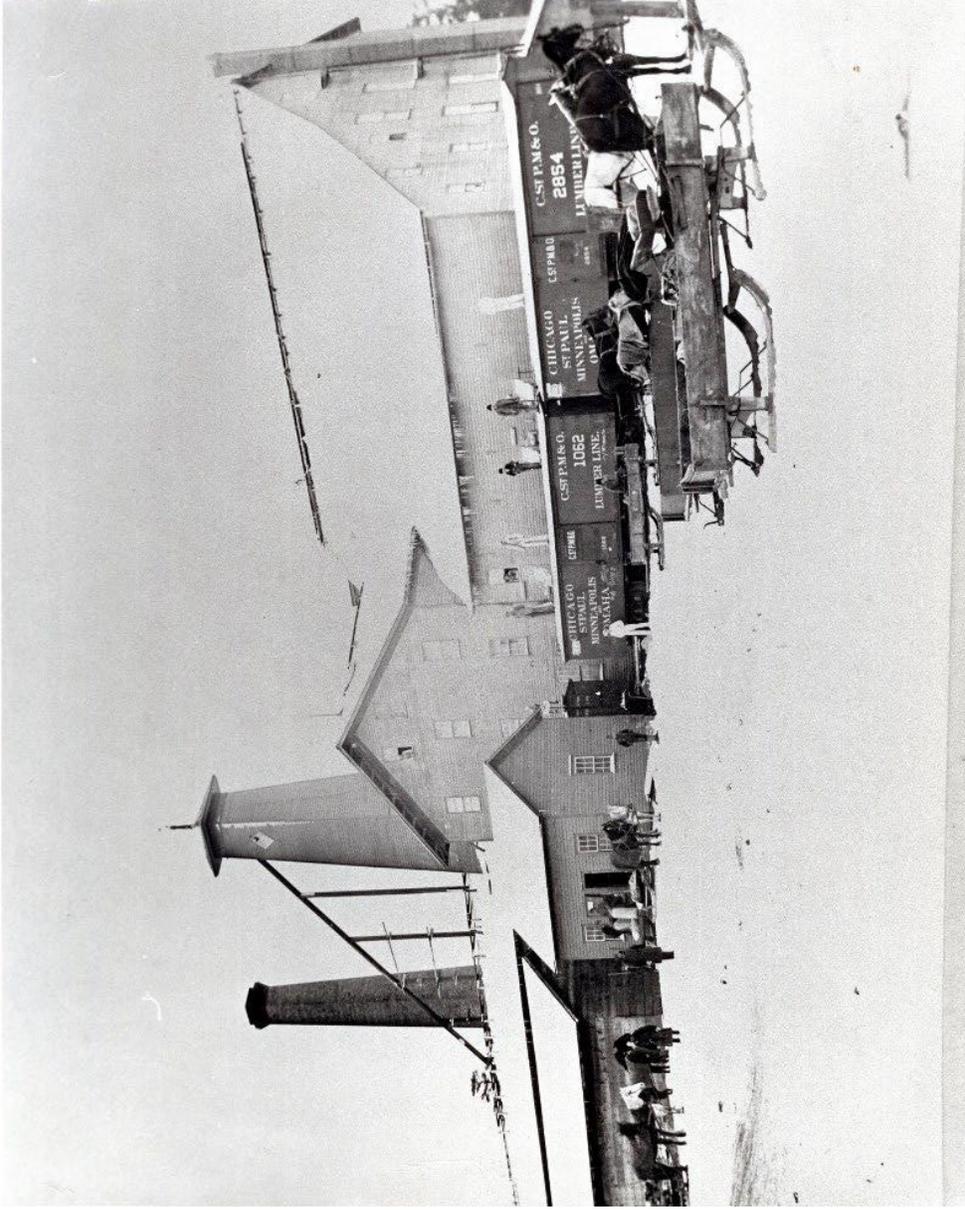
Appendix B: *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*. Department of Interior, National Park Service web page link to the standards and guidelines:

<https://www.nps.gov/tps/standards/rehabilitation.htm>

APPENDIX C
PHOTOGRAPHS



Junction Mill (circa 1880)
Photo Credit: City of River Falls



Junction Mill (circa 1890)
Photo Credit: University of Wisconsin-River Falls, University Archives and Area Research Center



Junction Falls hydroelectric plant (circa 1900)
Photo Credit: University of Wisconsin-River Falls, University Archives



Municipal Power Plant and the Junction Mill Smokestack
Photo Credit: WHS HPPH, 1990 Source: WHS 1991

EXHIBIT F
GENERAL DESIGN DRAWINGS AND SUPPORTING DESIGN REPORT

**RIVER FALLS HYDROELECTRIC PROJECT
PROJECT NO. 10489**

**FINAL APPLICATION FOR LICENSE
FOR MINOR WATER POWER PROJECT**

**EXHIBIT F
GENERAL DESIGN DRAWINGS & SUPPORTING DESIGN REPORT**

**CONTAINS CONTROLLED UNCLASSIFIED INFORMATION /
CRITICAL ENERGY INFRASTRUCTURE INFORMATION
(CUI/CEII)**

The general design drawings showing plan, elevations, and sections of the principle River Falls Hydroelectric Project (Project) works are included as follows:

<u>Sheet No.</u>	<u>Title</u>
Sheet 1	General Location Map
Sheet 2	Site Overview Map
Sheet 3	Downstream Elevation
Sheet 4	Spillway & Left Abutment
Sheet 5	Wasteway & Right Abutment
Sheet 6	Headworks
Sheet 7	Powerhouse

In order to protect Controlled Unclassified Information (CUI) / Critical Energy Infrastructure Information (CEII), the Commission has enacted regulations to govern public access to certain information. The Exhibit F drawings and Supporting Design Report referenced herein contain sensitive and detailed engineering information that, if used improperly, may compromise the safety of the Project and those responsible for its operation. Therefore, the Exhibit F drawings and Supporting Design Report have been labeled CUI/CEII. The drawings and Supporting Design Report have been submitted to the Federal Energy Regulatory Commission (FERC) under separate cover. Agencies may file a CEII request under 18 CFR § 388.113 to obtain the Exhibit F drawings.

EXHIBIT G
PROJECT BOUNDARY MAP

**RIVER FALLS HYDROELECTRIC PROJECT
PROJECT NO. 10489**

**FINAL APPLICATION FOR LICENSE
FOR MINOR WATER POWER PROJECT**

**EXHIBIT G
PROJECT MAP**

The Exhibit G currently on file with FERC shows the Project location but does not clearly delineate a Project Boundary. A proposed Project Boundary has been generated in accordance with current FERC regulations (18 CFR § 4.41[h][2]) and is outlined in Exhibit G of this application. The following map shows the location of the River Falls Hydroelectric Project, principle features, and proposed Project Boundary:

Sheet No.

Sheet 1

Title

Project Boundary Map

