Pre-Application Document

Brainerd Hydroelectric Project

FERC License No. 2533

Prepared for:
Brainerd Public Utilities
Brainerd, Minnesota

February 28, 2018

Available for Public Release

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Preface

Brainerd Public Utilities (BPU) is filing with the Federal Energy Regulatory Commission (FERC) this required Pre-Application Document (PAD) for renewal of its license to generate hydroelectric power. The PAD makes known existing engineering, economic, and environmental information relevant to licensing the Project that is reasonably available, or can reasonably be obtained with due diligence, at the time the NOI is filed. Its purpose is to provide available Project information to stakeholders so they can define issues, understand existing information, identify information gaps, and better focus study requests in the licensing application process. The PAD serves as the foundation for issue identification, study plan development, and the FERC's environmental analysis. No new studies were conducted to develop the PAD. The proposed schedule for completing application preparation and filing the application with the FERC is documented in the PAD. The existing Project license expires on February 28, 2023, and the Licensee must file for a new operating license with the FERC on or before February 28, 2021.

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Acronyms

Acronym	Description
BPU	Brainerd Public Utilities (Licensee)
BPUC	Brainerd Public Utilities Commission
CEII	Critical Energy Infrastructure Information
CFR	Code of Federal Regulations
cfs	Cubic Feet per Second
CRMP	Cultural Resources Management Plan
CWA	Clean Water Act
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
FOIA	Freedom of Information Act
IDF	Inflow Design Flood
ILP	Integrated Licensing Process
IPaC	Information, Planning, and Conservation System
ISR	Initial Study Report
MBS	Minnesota Biological Survey
MNDNR	Minnesota Department of Natural Resources
MPCA	Minnesota Pollution Control Agency
NAD83	North American Datum 1983
NGO	Nongovernmental Organization
NGVD	National Geodetic Vertical Datum 1929
NHIS	Natural Heritage Inventory System
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
PAD	Pre-Application Document
PDF	Portable Document Format
Project	Brainerd Hydroelectric Project
PSP	Proposed Study Plan
PURPA	Public Utility Regulatory Policies Act of 1978
RSP	Revised Study Plan
RTE	Rare, Threatened, Endangered, and Special Status
SD1	Scoping Document 1

SD2	Scoping Document 2
SHPO	State Historical Preservation Office
TMDL	Total Maximum Daily Load
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USR	Updated Study Report
WMA	State Wildlife Management Areas
WPA	Waterfowl Production Areas

Definitions

Authorized installed capacity	The licensed turbine capacity at the Project is 3,542.5 kW
Installed capacity	The installed turbine capacity at the Project is currently 2,942.5 kW
Licensee	The license was issued to the city of Brainerd and its Brainerd Public Utilities Commission (BPUC). Brainerd Public Utilities (BPU) manages the Project.
Project	Brainerd Hydroelectric Project, Federal Energy Regulatory Commission (FERC) No. 2533 (Project)
Project Area	The area within the Project boundary consisting of "…lands necessary for the operation and maintenance of the Project and for other Project purposes…" (1)
Project Boundary	The boundary line defined in the Project license issued by the FERC that surrounds the "…lands necessary for the operation and maintenance of the Project and for other Project purposes…" (1)
Relicensing	The process of acquiring a new FERC license for an existing hydropower project under expiration of the existing FERC license
Resource Affected Area	The geographic area in which a specific resource is potentially affected by the Project
RTE Species	Rare, threatened, endangered, and special-status species, which for purposes of this PAD includes all species (plant and animal) listed, proposed for listing, or candidates for listing under the Federal and State Endangered Species Act and those listed by the U.S. Fish and Wildlife Service (USFWS) as sensitive, special status, or watch list
Study Plan Determination	A ruling from FERC that determines the studies conducted during relicensing

1.0 Introduction

Brainerd Public Utilities (BPU) is filing this required Pre-Application Document (PAD) with the Federal Energy Regulatory Commission (FERC) for the relicensing of the Brainerd Hydroelectric Project, FERC No. 2533 (Project). The PAD serves as the foundation for issue identification, study plan development, and the FERC's environmental analysis. This section of the PAD includes a general summary of what will be included in the PAD. The Project is described in Section 3.0.

1.1 Relicensing Process

BPU's existing FERC license expires February 28, 2023. As noted in BPU's Notice of Intent (NOI), submitted simultaneously with this PAD, BPU will follow FERC's Integrated Licensing Process (ILP) as established in regulations issued by the FERC July 23, 2003 (Final Rule, Order No. 2002), and found in Title 18 of the U.S. Code of Federal Regulations (18 CFR), Part 5, during the relicensing process. As noted in these regulations, the ILP is the FERC's default process for relicensing. This PAD is a requirement of the ILP.

1.2 Purpose of the PAD

A PAD makes known all existing engineering, economic, and environmental information relevant to licensing a project that is reasonably available, or can reasonably be obtained with due diligence. The purpose of the PAD is to provide participants in the relicensing process with the information necessary to identify issues and develop study requests; it serves as the foundation for issue identification, study plan development, and the Commission's environmental analysis. It will set the proposed schedule for completing and filing the application with the Commission. The information required in the PAD is specified in 18 CFR, Part 5.

1.3 PAD Content

This PAD follows the requirements of 18 CFR § 5.6(c) and (d), with minor changes in format to improve readability. This PAD contains all of the information required by 18 CFR § 5.6(c) and (d) for distribution to federal and state resource agencies, local governments, Native American tribes, nongovernmental organizations (NGOs), members of the public, and others likely to be interested in the relicensing proceeding.

The PAD is organized using the following sections:

Section 1.0 - Introduction

Section 2.0 - Process Plan and Schedule

Section 3.0 - Project Location, Facilities, and Operation

Section 4.0 - Existing Environment and Potential Resource Impacts

Section 5.0 - Preliminary Issues and Studies List

Section 6.0 - Summary of Contacts

Section 7.0 - Communication Plan

1.4 License Applicant

The exact name, address, and telephone number of the applicant are:

Brainerd Public Utilities Commission
8027 Highland Scenic Road
PO Box 373
Brainerd, MN 56401
(218) 825-3213

1.5 Agents of the Licensee

The following persons are authorized to act as agent for the Licensee pursuant to 18 CFR § 5.6(d)(2)(i):

Mr. Scott Magnuson
Brainerd Public Utilities, Superintendent
8027 Highland Scenic Road
PO Box 373
Brainerd, MN 56401
(218) 825-3213
smagnuson@bpu.org

In addition to the above-authorized agent(s), we would like the following people to receive copies of any correspondence on this Project.

Mr. Todd Wicklund
Brainerd Public Utilities, Secretary/Finance Director
8027 Highland Scenic Road
PO Box 373
Brainerd, MN 56401
(218) 825-3220
twicklund@bpu.org

Ms. Adéle Braun
Barr Engineering Co., Project Manager
4300 MarketPointe Drive
Suite 200
Minneapolis, MN 55435
(952) 843-3703
abraun@barr.com

1.6 PURPA Benefit

This section includes information relating to the Public Utility Regulatory Policies Act of 1978 (PURPA), as specified in 18 CFR §5.6(e). BPU will not seek benefits under section 210 of the PURPA during the relicensing process. The Project is not located at a new dam or diversion.

2.0 Process Plan and Schedule

This section provides a description of the relicensing process plan and schedule. The FERC content requirements for this section are specified in 18 CFR §5.6(d)(1), with some modifications for readability. The PAD is required to include a plan and schedule for all pre-application activities that incorporate the time frames for pre-filing consultation, information gathering, and studies.

2.1 Process Plan and Schedule Overview

The process plan and schedule in Appendix A outlines actions required to be taken by the FERC, BPU, and other participants in the ILP through the filing of the license application. BPU developed the process plan and schedule using the timeframes set forth in 18 CFR Part 5. BPU based the dates on the NOI/PAD filing date of February 28, 2018. All subsequent dates in the process plan and schedule are derived from the date the NOI/PAD is filed. Because some of the dates are flexible, the process plan and schedule are subject to change throughout the relicensing process. If the deadline fell on a holiday or weekend the deadline was adjusted to the next business day. BPU will provide updates on the schedule to relicensing participants over the course of the relicensing process.

2.1.1 Process Plan and Schedule Phases

The process plan and schedule in Appendix A have been separated into the following five distinct phases:

- Phase 1: Relicensing Initiation (Figure A-1, Table A-1)
- Phase 2: Scoping Document Process (Figure A-1, Table A-2)
- Phase 3: Study Plan Development (Figure A-1, Table A-3)
- Phase 4: Conduct Studies (Figure A-2, Table A-4)
- Phase 5: Filing of License Application (Figure A-2, Table A-5)

2.2 Next Steps

FERC will issue a notice of commencement of proceedings and scoping document 1 (SD1) within 60 days of the filing date of the NOI/PAD. Pursuant to 18 CFR §5.8(b)(3)(viii), FERC will also provide public notice and schedule a public scoping meeting and site visit (if feasible) within 30 days of issuing the SD1. Based on a presumed filing date of February 28, 2018, for the PAD, BPU proposes holding the FERC scoping meeting on May 29, 2018, at the Brainerd Public Utilities facility. FERC will publish the final dates, times, and locations of the scoping meetings in local papers shortly after the filing of the NOI and PAD.

3.0 Project Location, Facilities, and Operation

This section provides a description of the Project and operation. The FERC content requirements for this section are specified in 18 CFR §5.6(d)(2), with some modifications for readability.

3.1 Licensee

The Brainerd Hydroelectric Project (Project) is owned and operated by the city of Brainerd and its Public Utilities Commission under a license from the FERC as Project No. 2533.

3.2 Project Location

The Project is located in Crow Wing County on the Mississippi River near the northeast side of Brainerd, Minnesota, as shown in Figure 3-1. The Project is located approximately 130 miles north of the Minneapolis – St. Paul metropolitan area.

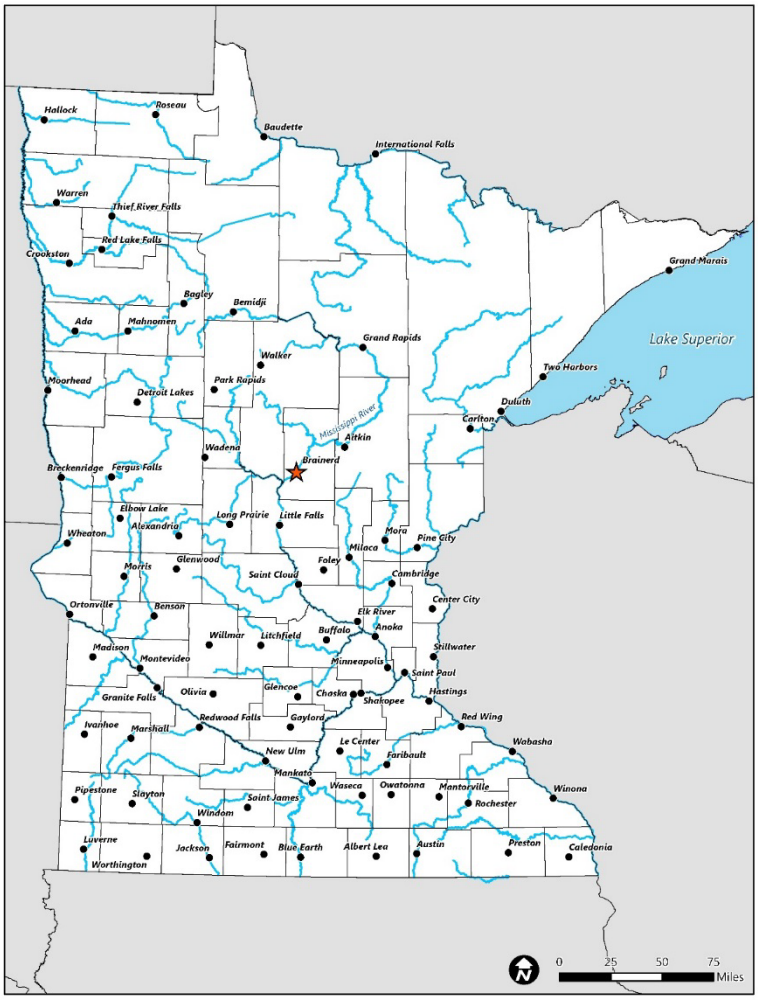

Figure 3-1 Project Location

3.3 Project Overview

From the left bank of the Mississippi River (looking downstream), the Project consists of a short left embankment, a 256-foot-long powerhouse, a 78-foot-long slide gate section, a 207-foot-long bascule (crest) gate section, a single 20-foot-wide steel tainter gate, and a 200-foot-long right embankment, as shown in Figure 3-2. An isometric view is presented in Figure 3-3. The Project is located on land owned by BPU and is a run-of-river hydroelectric project with an authorized installed capacity of 3,542.5 kW.

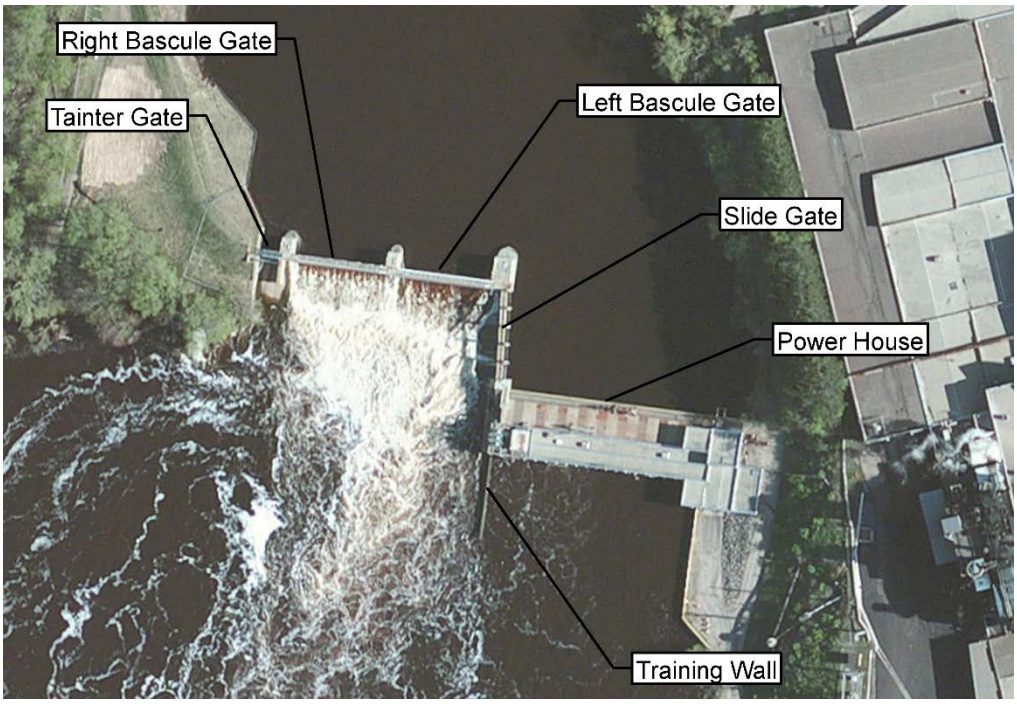

Figure 3-2 Project Overview

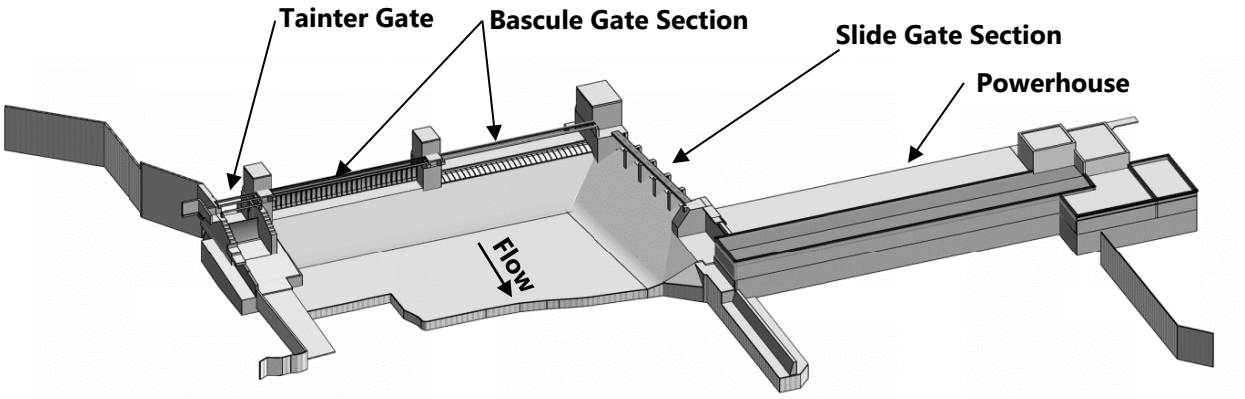

Figure 3-3 Isometric View of Project

3.3.1 Project Boundaries

Digital Project boundary maps including Project boundaries and the location of the dam are included in Figure B-1 of Appendix B. Exhibit G, Project boundary information, included in the previous license application is included in Appendix C for reference. Revised georeferenced Exhibit G maps will be developed for the license application for the Project.

3.3.2 Datum

Elevations in this report are referenced to National Geodetic Vertical Datum 1929 (NGVD), in feet. All references to left and right assume an orientation looking downstream. Project features have historically been referenced to Memphis datum and/or NGVD. Memphis datum is 8.16 feet higher than NGVD (NGVD = Memphis – 8.16 feet). For reference, the top of the closed bascule gates in the vertical position is at elevation 1183.00 Memphis datum, or 1174.84 NGVD. GIS maps provided in the appendices of this report have been developed using North American Datum of 1983 (NAD83) Zone 15N coordinate system.

3.3.3 Project Reservoir and Hydraulic Information

The Project has a normal pool elevation of 1174.0 ± 0.1 feet (2). At normal pool the reservoir has a surface area of about 2,500 acres and storage capacity of 13,000 acre-feet. The peak inflow design flood (IDF) for the Project was estimated to be 56,850 cubic feet per second (CFS) (3). The reservoir elevation during the peak IDF discharge was estimated to be elevation 1183.1 feet (NGVD).

3.4 Current Project Operations

The Project is operated as a run-of-river project and maintains a target elevation of 1174.04 feet (NGVD) with fluctuations limited to 0.1 feet (2). Run-of-river mode may be temporarily modified in the event of an emergency if the Minnesota Department of Natural Resources (MNDNR) agrees, but FERC must be notified as soon as possible following the event. The Project is manually operated by one operator on duty 24 hours per day, 7 days per week. Five trained operators are available for operating the Project. If the flow is less than 295 cfs, (the hydraulic capacity of one unit) (2) flow is passed over the spillway and the powerhouse is shut down. Once flows reach 295 cfs, the powerhouse is used to regulate flow to maintain the reservoir level during normal flows. Once flows exceed the available powerhouse capacity (approximately 2,773 cfs) (2) the gates are operated to pass remaining flows. In this case, the outflow is equal to the flow through the turbines plus the flow over the spillway. Turbines continue to operate during high-flow conditions. The Project can maintain a constant pool elevation of 1174.0 up to an inflow of 13,000 cfs. For greater flows, the pool elevation starts to rise and flow is regulated by discharge capacity.

3.5 Turbine and Generators

The Project is licensed for six generating units with a total installed capacity of 3,542.5 kilowatts (4). At present, five tandem horizontal turbines with direct connections to generators are installed. The license was amended in 2016 to allow for the additional capacity of a sixth turbine/generator unit which has not been installed yet. With the proposed turbine, the Project will have a combined rated capacity of 3,542.5 kW. The installed capacity is currently 2,942.5 kW.

Units 1, 2, and 3 have governors and synchronous generators. Units 4 and 5 have synchronous motors but no governors. Wicket gates for units 4 and 5 are manually controlled. Turbines 3, 4, and 5 were originally used for direct grinding of pulp and were converted to hydroelectric operation in 1956 (5). A description of the generator/turbine and associated control equipment is summarized in Table 3-1.

Table 3-1 Unit Summary

Unit No.	Year Generator /Turbine Installed	Authorized Installed Capacity (kW)	Generator Make and Type	Turbine Make and Type
1	1916	560[1]	Electric Machinery 700 kVA 2300V (560 kW)	2-S. Morgan Smith 45 inch 128.5 rpm Type N 610 hp (455 kW) at 665 cfs
2	1916	560[1]	Electric Machinery 700 kVA 2400V (560 kW)	2-S. Morgan Smith 45 inch 128.5 rpm Type N 610 hp (455 kW) at 665 cfs
3	1956/1916	480.3[1]	General Electric 600 kVA 2300V (480.3 kW)	2-S. Morgan Smith 32.5 inch 225 rpm Type S 520 hp (388 kW) at 493 cfs
4	1956/1916	671.1[1]	Electric Machinery 900 hp 2200V (671.1 kW)	2-S. Morgan Smith 32.5 inch 225 rpm Type S 520 hp (388 kW) at 493 cfs
5	1956/1916	671.1[1]	Electric Machinery 900 hp, 2200V (671.1 kW)	2-S. Morgan Smith 32.5 inch 225 rpm Type S 520 hp (388 kW) at 493 cfs
6	Planned 2018/2019	600[2]	ATS-63	ATS-63
Total		**2,942.5**		

Notes:
1. Based on BPU calculated capacity (6)
2. ATS-63 Turbine/generator installation date TBD – (6)

3.5.1 Transmission Line

The Project transmission lines consist of a 236-foot-long 2.4-kilovolt (kV) overhead transmission line running from the powerhouse to a pad-mounted transformer located on the left embankment directly east of the powerhouse. Power is then transferred underground to the distribution grid. A single line diagram is included in Appendix D. The transmission line length is shorter than stated in the existing license due to recent modifications.

3.5.2 Generation and Outflow Records (5 years)

Monthly net energy generation for the Project for 2013 to 2017 is provided in Table 3-2. Based on generation records for 2013 to 2017, the average net generation is calculated as approximately 18,529 MWhs per year. The annual generation for this time period ranged from a high of 21,166 MWh in 2016 to a low of 16,511 MWh in 2013.

Table 3-2 Monthly Net Energy 2013–2017 (MWh)[1]

Year	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total	Avg
2013	1,522	1,372	1,801	1,618	898	1,110	1,461	1,005	890	1,446	1,664	1,724	16,511	1,376
2014	1,854	1,664	1,845	1,449	887	1.039	1,673	2,006	1,619	2,029	1,972	1,876	19,913	1,659
2015	1,544	1,349	1,658	1,306	1,465	1,756	1,906	1,375	1,707	1,865	1,805	1,864	19,601	1,633
2016	1,955	1,639	1,709	1,561	1,806	1,914	1,370	1,875	1,892	1,954	1,929	1,562	21,166	1,764
2017	1,830	1,668	1,676	1,446	1,371	1,916	1,657	1,508	1,630	1,639	1,898	1,980	20,219	1,685
Avg[2]	1,741	1,538	1,738	1,476	1,286	1,547	1,613	1,554	1,547	1,787	1,854	1,801	19,482	1,624

Note:

1. Based on plant generation data
2. Average based on data from 2013 to 2017

Table 3-3 contains the annual average generation at the Project for the period 2013 to 2017 and shows that the combined annual average generation from 2013 to 2017 was 19,482,000 kWh. This represents approximately 10,600 tons of coal, 35,700 barrels of crude oil, 1,370,000 gallons of fuel oil, 1,490,000 gallons of diesel oil, or 197 million cubic feet of natural gas for power generation (7), (8), (9).

Table 3-3 Project Net Generation 2013–2017 (kWh)

Year	2013	2014	2015	2016	2017	Average
Generation	16,510,600	19,913,200	19,601,000	21,166,400	20,218,800	19,482,000

Note:

1. Based on plant generation data

The Project's installed capacity is 2,942.5 kW. A power factor of 0.756 was calculated based on the installed capacity and average generation between 2013 and 2017. The power factor is the Project's ability to convert water flow into generation (actual generation divided by installed capacity). The equation to calculate the power factor is as follows:

(19,482 MWh/yr) / (2.9425 MW * 8760 hours/year) = 0.756

3.6 Project License History

The original dam was authorized by an Act of Congress in 1886 (10). The dam was damaged by a flood in the spring of 1950 and the U.S. Army Corps of Engineers (USACE) approved reconstruction on May 18, 1951 (5). The FERC issued a license to the Northwest Paper Division of Potlatch Corporation on December 10, 1976, and the Project was relicensed for 30 years to Potlatch Corporation on March 2, 1993. License transfers to various entities were approved by FERC on the dates shown below (11):

- Missota Paper Company, LLC on April 8, 2003
- Wausau Paper of Minnesota, LLC on October 21, 2004
- Wausau Paper Printing and Writing, LLC on December 28, 2006
- Wausau Paper Mills, LLC on March 10, 2010
- City of Brainerd and its Public Utilities Commission on March 13, 2014

Transfer of the license officially occurred when BPU purchased the Project on June 13, 2014. At the time of the purchase, the Project boundaries were changed, removing the paper mill adjacent to the Project from within the Project boundaries.

On August 4, 2016, a non-capacity license amendment application was submitted to the FERC. The amendment was for the proposed permanent addition of a 600 kW turbine. On July 19, 2016, the FERC approved the amendment and changed the licensed installed capacity of the Project to 3,542.5 kW; however, the current installed capacity remains at 2,942.5 kW until the new turbine is installed.

3.7 Existing License Requirements

The Project's current license was issued by FERC on March 2, 1993 (12). The license was for a term effective March 1, 1993, through February 28, 2023. A summary of the license requirements is provided below:

- **Article 201** details the annual charges the Licensee shall pay the United States for the Project over the term of the license.
- **Article 202** describes clearing of lands, property, and dead trees along the reservoir and Project works in accordance with appropriate federal, state, and local statues and regulations.
- **Article 203** outlines the authority of the Licensee to grant permission for certain types of use and occupancy of Project lands and waters, provided it is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the Project. The Licensee also has the responsibility to supervise, control, and monitor use of the Project. The Licensee shall take lawful action as necessary to correct violations. The authority of the licensee does not extend to any part of public lands or reservations included within the Project boundary.
- **Article 204** outlines the requirement of the Licensee to reimburse others if headwater benefits occur.
- **Article 205** specifies the method for determining surplus earnings for the Project.
- **Article 401** reserves the authority for the Commission to require the Licensee to construct, operate, and maintain a fishway, as prescribed by the Secretary of the Interior.

- **Article 402** requires that the Licensee operate the Project in a run-of-river mode, maintain a target elevation of 1174.04 feet NGVD with fluctuations limited to 0.10 feet (12). Run of river may be temporarily modified in the event of an emergency if the MNDNR agrees, but the Commission must be notified as soon as possible following the event.

- **Article 403** requires the Licensee to file and implement a plan to monitor the Project's run-of-river operation.

- **Article 404** requires the Licensee to file and implement an operation plan which specifies how the Licensee coordinates with other plant operators on the Mississippi River and considers effects of flow adjustments on downstream fishery and other natural resources.

- **Article 405** requires the Licensee to file and implement a plan to annually monitor bald eagle nesting at the Project.

- **Article 406** requires the licensee to implement the Programmatic Agreement executed on January 11, 1993, to avoid and mitigate impacts to archeological and historic sites at the Project.

- **Article 407** requires the Licensee to consult with the State Historical Preservation Office (SHPO) before conducting any land-clearing or ground-disturbing activities within the Project boundaries or if a previously unidentified archaeological or historic property is discovered during the course of Project operation. In either instance, the Licensee must file the following with the Commission: a report containing a cultural resources survey, a cultural resource management plan completed by a qualified cultural resource specialist after consulting with the SHPO, and written comments of SHPO and Tribes. The Licensee shall implement the plan upon Commission approval.

- **Article 408** requires the Licensee to monitor recreation use of the Project area to determine if existing recreation facilities are meeting recreation needs. Monitoring studies shall occur annually and every 6 years the Licensee shall file a report with the Commission on the monitoring results. This report shall include annual recreation use figures, discussion of adequacy of facilities to meet recreation demand, a description of the methodology used to collect study data, if there is a need for additional recreation facilities in the Project area, documentation of agency consultation, and comments on the report and specific descriptions of how the agency's comments are accommodated.

3.8 Current Net Investment

As of December 31, 2017, BPU's net investment in the Project is $7,163,947.

3.9 Project Compliance History

BPU has reviewed compliance history during the license period (since 1993).. The following item was noted:

- February 27, 2017 – Letter of noncompliance for failure to file Dam Safety Surveillance and Monitoring Report (DSSMR) for calendar year 2015 by April 2016 (13)

The noncompliance instance was resolved when BPU filed the DSSMR report on March 17, 2017 (14).

3.10 Future Project Plans

It is BPU's intention to maintain the Project in the existing configuration and to continue to maintain and operate the Project in a safe manner. Proposed physical and operational changes to the Project include the installation of a new turbine into Bay 6 with proposed installation to occur in 2018 or 2019. This modification was approved in the License amendment in 2016, but as of the writing of this document, the turbine has not been installed. No additional physical or operational changes are proposed for the Project.

4.0 Existing Environment and Potential Resource Impacts

Pursuant to 18 CFR § 5.6(d)(3), this section provides a description of the existing environment and potential resource impacts from license renewal. The content requirements for this section are specified in 18 CFR §5.6(d)(3), with some modifications for readability. Supporting figures referenced in this section were developed using the most current, relevant data available at the time this document was developed.

As described in Section 3.0, FERC issued the license in 1993 incorporating the environmental assessment that was prepared to evaluate the environmental impacts of the license. Based on this environmental analysis, FERC made a finding of no significant impact from the project. Since this proposed license renewal essentially perpetuates current conditions and their associated impacts, as described in the 1993 environmental assessment, it is expected there would be no new impacts to resources from license renewal.

4.1 Geology and Soils

This section provides a description of the geology, topography, and soils; the FERC content requirements for this section are specified in 18 CFR §5.6(d)(3) (ii).

4.1.1 Geology

The Project is located in the Mississippi River Valley near the headwaters of the Mississippi. In this region, the Mississippi River flows through ice-contact stratified materials and outwash sand deposited during the Wisconsin glaciation. Bedrock is Precambrian metamorphic rocks such as argillite (slate), greywacke, and ferruginous chert (see Figure B-2 in Appendix B). The bedrock surface is generally at a depth of less than 100 feet and occasionally outcrops near the surface. Soils in the area of the dam are predominantly outwash sands, ice-contact stratified materials, and Glacial Lake Brainerd deposits less than 100 feet deep (3) (see Figure B-3 in Appendix B). Sinkholes are generally associated with carbonate bedrock such as dolomite and limestone. Since the bedrock at the dam site is Precambrian metamorphic rock, sinkhole potential is negligible (3).

A northeast-trending thrust fault is located approximately ½ mile southeast of the dam (15). It should be noted that there is no history of significant earthquakes in this region. Minnesota is considered to be a low-risk seismic region as referenced in USACE publication ER 1110-2-1806 (16).

4.1.2 Soils

According to the Soil Survey of Crow Wing County (17), there are 24 soil map units found within the Project area. The most predominant soil map unit is water (84 percent of the Project area) due to the Project boundary primarily consisting of the reservoir upstream of the Brainerd Dam. Other soil map units that comprise more than 1 percent of the Project area include:

- Eutrudepts-Graycalm-Rollins complex, pitted, 20 to 45 percent slopes (5 percent of the Project area).

- Lougee-Totagatic-Bowstring complex, 0 to 1 percent slopes, frequently flooded (3 percent of the Project area).

All mapped soils in the Project area have a Kf[1] factor less than 0.37, making them less susceptible to sheet and rill erosion by water. Most of the soils in the Project area (88 percent) are mapped as not hydric, and none are classified as prime farmland. See Figure B-4 in Appendix B for a surficial soils map of the Project.

4.1.3 Topography

The topography in the vicinity of the Project is relatively level with some areas of strongly rolling hills. The highest ground elevation within 2 miles of the Project is about 165 feet above normal reservoir headwater elevation. From its upstream origin, the Mississippi River follows an extremely winding course which flows through a broad, flat highland covered with numerous lakes, swamps, and low hills. There is only a 70 foot vertical drop between the Blandin Dam (located in Grand Rapids) and the Project site in Brainerd. The Blandin Dam is the next upstream dam along the main stem of the Mississippi River, approximately 173 river miles away (12).

4.1.4 Reservoir Shoreline and Streambank Conditions

The shoreline surrounding the Project is forested. The streambanks are relatively stable. The Project is operated as run-of-river with a 0.1 foot variation. Sudden increases or decreases in reservoir elevation are due to weather conditions and not Project operations. Therefore, the Project is likely to have limited effect on erosion.

4.1.5 Potential Impacts on Geology and Soils

Since the license renewal essentially perpetuates current conditions, the Project is not anticipated to result in any new impacts to geology, topography, and soils.

4.2 Water Resources

This section provides a description of the water resources for the Project and the FERC content requirements for this section are specified in 18 CFR §5.6(d)(3)(iii).

4.2.1 Drainage Area

The Mississippi River rises in an area of small lakes in northwestern Minnesota and flows southeast across the state to its confluence with the Minnesota River near St. Paul, MN. The Project is part of the Upper Mississippi River basin, which is predominantly forest. The drainage area of the Upper Mississippi River Basin is approximately 7,320 square miles. The watershed is described as a glaciated region having gravelly and sandy outwash material (12).

[1] The Kf erosion factor indicates the erodibility of materials less than 2 millimeters in size. Values of K range from 0.02 to 0.69, with higher values indicating greater susceptibility.

4.2.2 Flows of Record

Historical flood data for this Project is gathered from the U.S. Geological Survey (USGS) gaging stations at Aitkin (52 miles upstream of Brainerd) and Royalton (48 miles downstream from Brainerd). A USGS gage was installed at Brainerd in 1987. Average monthly flow data from the Brainerd gage is shown for the last 10 years in Table 4-1. The minimum, maximum, and average discharge for the above-listed gages are shown in Table 4-2. The annual and monthly flow duration curves for the Project are included in Appendix E. The minimum, mean, and maximum average daily flows from the Brainerd gage for the period of record are 348 cfs, 3,488 cfs, and 17,900 cfs, respectively.

Table 4-1 Average Monthly Flows (in cfs) for USGS Gauge #05242300, Brainerd (2008–2017)

Year	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2008	1,791	1,491	1,228	4,902	8,598	6,069	2,838	1,002	801	1,938	2,758	1,670
2009	1,652	2,129	4,339	8,987	6,508	3,539	1,690	991	618	1,179	3,079	2,072
2010	2,212	2,050	3,013	1,656	2,501	1,652	2,167	2,769	2,503	3,735	6,925	3,714
2011	3,338	3,068	3,086	7,385	8,468	6,217	4,854	3,525	1,647	1,411	1,650	1,590
2012	1,400	1,338	1,839	2,970	6,209	12,540	11,590	3,535	1,170	885	1,195	2,044
2013	1,716	1,717	1,687	4,495	9,139	7,481	4,885	1,522	1,017	2,242	2,520	1,969
2014	2,116	2,120	2,264	7,093	10,900	10,010	5,952	3,685	3,506	3,018	2,619	2,020
2015	1,791	1,646	1,831	1,370	5,176	4,798	2,667	1,727	2,253	2,149	4,209	4,415
2016	3,669	3,196	5,252	5,795	4,462	3,477	8,002	4,047	3,522	3,436	3,215	4,864
2017	3,541	3,611	5,008	6,977	7,770	3,387	1,992	2,041	3,055	5,638	3,336	2,903
Monthly Mean [1]	2,475	2,290	2,739	5,677	6,014	4,727	4,234	2,382	2,166	2,983	3,350	2,851

Note:

1. Monthly mean based on data from May 1987 to December 2017

Table 4-2 USGS Stream Gage Data

Gage	Drainage Area (mi^2)	Period of Record	Maximum Discharge (cfs)	Minimum Discharge (cfs)	Average Discharge (cfs)
05227500 at Aitkin	6,140	1945 to 2017	19,900 (May 20, 1950)	153 (Sept. 1, 1961)	2,929
05242300 at Brainerd	7,320	1987 to 2017	17,900 (June 26, 2012)	348 (July 30, 1988)	3,488
05267000 near Royalton	11,600	1924 to 2017	38,200 (April 8, 1997)	254 (Nov. 25, 1937)	4,912

4.2.3 Water Uses and Upstream and Downstream Requirements

The primary purpose of the Project is electrical power generation. The 1993 license documents reference process water used by the Brainerd paper mill, which is no longer functional and does not remove water from the Mississippi River.

The Project is operated in a run-of-river mode year round with Project discharges matching inflows. The reservoir elevation is maintained at 1174.0 is 1174.0+/- 0.1 feet (NGVD) for flows less than 13,000 cfs.

When flows exceed 13,000 cfs, the Project no longer regulated the reservoir elevation because all of the gates are fully open.

The applicant is not aware of any upstream water intakes within the boundary limits of the Project. BPU proposes to continue operating the Project in a run-of-river mode year round, with discharges matching inflows. If there are existing water intakes located upstream from the Project, the Project is not anticipated to change impacts to those intakes because the Project will continue to regulate the reservoir at a minimum elevation of 1174.0 +/- 0.1 feet (NGVD).

Because the Project operates in a run-of-river mode year round and BPU proposes to continue operating the Project in a run-of-river mode, the Project is not anticipated to change impacts to water elevations or flows downstream from the Project.

4.2.4 Existing Instream Flow Uses

The MNDNR and the Minnesota Pollution Control Agency (MPCA) regulate the use of surface waters within the state's boundaries. Primary water uses include recreation such as boating and fishing and hydroelectric power generation. Secondary uses include navigation and industrial process cooling water.

Because the Project operates in a run-of-river mode year round and BPU proposes to continue operating the Project in a run-of-river mode, the Project is not anticipated to change impacts to instream flows from the Project.

4.2.5 Water Rights

The Project is located in Minnesota following eastern (Riparian) water law (18). Since the Project operates as a run-of river facility, no water use permit is required.

4.2.6 Relevant Federally Approved Water Quality Standards

Under Section 303(d) of the Clean Water Act (CWA), states are required to monitor and assess their waters to determine if they meet water quality standards supporting the beneficial uses they are intended to provide (33 U.S.C. 1313(d)). Waters that do not meet their designated uses due to water quality standard violations are listed as impaired. States are required to develop a list of impaired waters that require total maximum daily load (TMDL) studies and to submit an updated list of impaired waters to the Environmental Protection Agency (EPA) every 2 years. The MPCA monitors waters to determine if they meet water quality standards for designated uses and lists waters as impaired if they do not meet their designated uses because they exceed water quality standards.

Within the Project area, Rice Lake (ID 18-0145-00) and the reach of the Mississippi River from the Pine River to the Crow Wing River (ID 07010104-656), which extends both upstream and downstream of the Brainerd Dam, are listed as impaired. Rice Lake is impaired for mercury in fish tissue, with the affected designated use of aquatic consumption. Listed as impaired in 1998, a TMDL Plan for the Rice Lake mercury impairment was approved in 2008. Similar to Rice Lake, this reach of the Mississippi River was listed as impaired for mercury in fish tissue in 1998, with the affected designated use of aquatic

consumption. A TMDL Plan for this impairment was approved in 2007. This reach of the Mississippi River was also listed as impaired for total suspended solids (TSS) in 2016, with the affected designated use being aquatic life. A TMDL Plan for the TSS impairment has not, yet, been completed, but is targeted for completion in 2021 (19).

Pursuant to 18 CFR §5.18(b)(3)(i), applicants must file a request for a water quality certification A water quality certification, pursuant to Section 401 of the Federal Water Pollution Control Act, 33 S.C. S1341. The Project was issued a water quality certification during relicensing in 1993. When BPU applied for a non-capacity amendment in 2016, MPCA noted in a letter to BPU dated March 18, 2016 that the MPCA believed at that time that the original Section 401 Certification for the Project remained in effect because there were no significant structural changes, no change to the dam or reservoir, and no changes to the existing operation of the project. This response from the MPCA was submitted to the FERC in a letter dated March 21, 2016 (Appendix F).

4.2.7 Project Effects on Seasonal Variation of Water Quality

The Project waters are subject to Minnesota Administrative Rule 7050, Waters of the State, Water Quality Standards for Protection of Waters of the State. Mississippi River water in the vicinity of the Project is in the water use group classifications 2B and 3B.

- Class 2B: Fisheries and recreation. The quality of this class of waters of the State shall be such as to permit the propagation and maintenance of a healthy community of cool or warm water aquatic biota and their habitats. These waters shall be suitable for aquatic recreation of all kinds, including bathing for which the waters may be usable.

- Class 3B: Industrial Consumption. The quality of this class of the waters of the State shall be such as to permit their use for general industrial purposes, except for food processing with only a moderate degree of treatment.

In addition, this reach of the river from Lake Itasca to Fort Ripley is designated as an outstanding resource value water. This means that these waters have special qualities which warrant stringent protection from pollution. The only established water quality monitoring station in this reach of the river is near Royalton, 48 miles below the Project. In 2017, the MPCA assessed water quality from the headwaters to the Twin Cities area. Although the portions of the river up and downstream of the project met recreation standards for water quality, the portion of the river upstream from Grand Rapids to Brainerd failed to meet river live standards due to sediment levels (20).

Each year the Minnesota Department of Health publishes a fish consumption advisory for Minnesota waterways for the presence of mercury, dioxin, and PCBs. The June 2016 publication (21) lists mercury advisories for a variety of fish species caught in the Mississippi River in the vicinity of the Project, both up and downstream.

The state of Minnesota has issued a Water Quality Certificate to the applicant which requires a minimum flow below the dam of 380 cfs, except when limited by reservoir inflow. This conforms to the EPA's recommendations on minimum flows for maintaining water quality below the dam.

4.2.8 Existing Reservoir Information

The reservoir elevation is 1174.0+/- 0.1 feet (NGVD). The reservoir has a normal surface area of about 2,500 acres or storage capacity of 13,000 acre-feet. A minimum outflow of 380 cfs is maintained at all times from the Project, except when the inflow is less than 380 cfs, in which case outflow equals inflow. The Project is a run-of-river facility.

4.2.9 Potential Resource Impacts

With the renewal of the license, no new impacts to water resources are expected.

4.3 Fish and Aquatic Resources

This section provides a description of the fish and aquatic resources for the Project and the FERC content requirements for this section are specified in 18 CFR §5.6(d)(3) (iv).

4.3.1 Existing Environment

The Brainerd area provides premier fish habitat. In addition to the Mississippi River, the immediately upstream Rice Lake provides important fisheries habitat near the Project. Rice Lake is an impoundment of the Mississippi River created by the Brainerd Dam. As such, it contains both typical lake and riverine fish species (22).

The MNDNR surveyed the Rice Lake fishery in August 2014 and sampled 17 fish species, including black crappie, bluegill, bowfin (dogfish), brown bullhead, channel catfish, greater rednose, hybrid sunfish, largemouth bass, northern pike, pumpkinseed, rock bass, shorthead redhorse, silver redhorse, smallmouth bass, walleye, yellow bullhead, and yellow perch (23). Although no muskellunge were sampled during the survey, there are reports of this fish species being caught in both Rice Lake and the adjoining reach of the Mississippi River as the MNDNR stocks this species in the Mississippi River. The MNDNR also stocks walleye in this region. Smallmouth bass is the primary management species of fish in Rice Lake, while walleye, northern pike, and muskellunge are secondary management species (22).

The MNDNR's Minnesota Statewide Mussel Survey indicates that the nearest mussel survey site is located approximately 6 miles upstream of the Project on the Mississippi River. The site (ID 2007059) was surveyed in June 2007, during which four species were identified: paper floater, fatmucket, giant floater, and plain pocketbook. According to the MNDNR, each of these is a common mussel species with a population that is presumed to be healthy.

BPU operates the Project in run-of-river mode for the protection of fish and wildlife resources in the Mississippi River, meaning that water is discharged at approximately the same rate as it enters the reservoir. The elevation of the upstream reservoir is held within 0.1 feet to the extent possible. Flows into the Project area are managed by USACE-controlled reservoirs upstream of the Project.

4.3.2 Potential Impacts

Since the license renewal essentially perpetuates current conditions, the Project is not anticipated to result in any new impacts to fish and aquatic resources.

4.4 Wildlife and Botanical Resources

This section provides a description of the wildlife and botanical resources for the Project and the FERC content requirements for this section are specified in 18 CFR §5.6(d)(3) (v). Publicly available data sources and available previous surveys in the vicinity of the Project were used to develop information related to wildlife and botanical resources and are shown on Figure B-5 in Appendix B.

4.4.1 Botanical Resources

4.4.1.1 Existing Environment

The Project is located within the Northern Minnesota Drift and Lake Plains (MDL) Section of Minnesota's Laurentian Mixed Forest Province (24). Vegetation patterns in the MDL reflect the area's history of patchy distribution of glacial deposits. Mesic forests typically consisting of sugar maple, basswood, paper birch, aspen, and northern red oak are widespread across the MDL. Historically, forests of jack pine and red pine were common. Sand and gravel deposits found atop moraines in the MDL provide suitable growing conditions for mixed forests of pine and boreal hardwood species such as quaking aspen and paper birch. The eastern portion of the MDL, where the Project is situated, contains former lake plains with expansive areas of peatland communities, such as black spruce, as well as both poor and rich swamp forests with white cedar and black ash. Sedge meadows and alder swamps occur in riparian areas along the Mississippi River and other smaller streams.

The Project is located in a hybrid urban/rural setting; as such, existing vegetation has become altered from native conditions in many locations. Much of the vegetation in the Project area has been converted to impervious surface, maintained open spaces (i.e., lawns, parks, etc.), or secondary growth forest. There are no MNDNR-identified native plant communities in the Project area. One Minnesota Biological Survey (MBS) site overlaps the majority of the Project boundary. This site, the Mississippi Moraine, is classified as a site of high biodiversity significance. MBS sites classified as high significance contain good quality occurrences of the rarest species, high-quality examples of rare native plant communities, and/or important functional landscapes. The MBS site classification for the Project area is shown on Figure B- in Appendix B.

4.4.1.2 Potential Impacts

Since the license renewal essentially perpetuates current conditions, the Project is not anticipated to result in any new impacts to botanical resources.

4.4.2 General Wildlife Resources

4.4.2.1 Existing Environment

The area surrounding the Project contains suitable habitat for a variety of wildlife, such as whitetail deer, wild turkey, coyote, red fox, rodents, rabbits, and raccoons. The Project is located in the Mississippi Flyway

5of North America (25). As such, migratory birds, including waterfowl, may use the surrounding area as resting grounds during spring and fall migrations, as well as breeding and nesting grounds throughout the summer.

Bald eagle surveys within the Project boundary have been ongoing since the 1993 License. Monitoring completed by the MNDNR in 2014 identified two bald eagle nests within the upper portion of the Project area—one active and one inactive. The active nest was located in the vicinity of a previously observed, known nest location. The inactive nest was located in a tree that had typically supported an active nest since bald eagle surveys were initiated in the early 1990s.

There are no Waterfowl Production Areas (WPA), State Wildlife Refuges, or State Wildlife Management Areas (WMA) within the Project boundaries. The nearest State Wildlife Refuge is the Camp Ripley Statutory Game Refuge, located approximately 10 miles southwest (downstream) of the Project area. The nearest WMA is the Loerch WMA, located approximately 1.6 miles southeast (downstream) of the Project area.

4.4.2.2 Potential Impacts

Since the license renewal essentially perpetuates current conditions, the Project is not anticipated to result in any new impacts wildlife resources.

4.5 Wetlands, Riparian, and Littoral Habitat

This section provides a wetlands, riparian, and littoral habitat for the Project and the FERC content requirements for this section are specified in 18 CFR §5.6(d)(3) (vi).

4.5.1 Existing Environment

Wetland, riparian, and littoral habitats within the Project area are primarily associated with margins and near-shore areas of the dam's impoundment. According to the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), the majority of the Project area is classified as lake (approximately 1,872 acres, comprising 93 percent of the Project area), which typically contains water depths too deep to support wetlands, see Figure B-6 in Appendix B. Of the 144 acres of NWI-identified wetland in the Project area, the predominant types are freshwater emergent (approximately 115 acres, comprising 80 percent of wetland in the Project area) and freshwater pond (approximately 19 acres, comprising 13 percent of wetland in the Project area), with lesser amounts (i.e., less than 10 percent) of freshwater forested/shrub and riverine wetland types (26).

Wetlands in Minnesota can be further categorized into types based on the Circular 39 system developed by the USFWS. Based on the Circular 39 system, wetlands in the Project area are primarily Type 3—shallow marsh, Type 4—deep marsh, Type 5—open water, and Type 8—bogs (27). Each of these wetland types is further characterized below:

- **Type 3—Shallow Marsh:** Soils of Type 3 wetlands are usually waterlogged in early spring and are often covered with 6 or more inches of water. Vegetation typically includes grasses, bulrushes,

spikerushes, cattails, arrowheads, pickerelweed, and smartweed. Type 3 wetlands protect water quality and shoreland; retain floodwater; provide habitat for waterfowl, amphibians, and fish; and foster recreational opportunities, such as hunting, fishing, and canoeing.

- **Type 4—Deep Marsh:** Type 4 wetland soils are usually covered in 6 inches to 3 feet of water in spring and summer seasons. This type of wetland can completely fill shallow lake basins and depressions or may border littoral zones of open water areas. Vegetation of Type 4 wetland typically includes cattails, reeds, bulrushes, spikerushes, and occasionally wild rice. In open areas, pondweed, naiads, coontail, watermilfoils, waterweeds, duckweeds, waterlilies, or spatterdocks can be found. Type 4 wetlands provide water quality protection and floodwater detention while serving as habitat for wildlife and fisheries and providing recreational opportunities similar to those provided by Type 3 wetlands.

- **Type 5—Open Water:** Type 5 wetlands include shallow ponds and are littoral zones of reservoirs. Water in this type of wetland is typically less than 6 feet deep, fringed by a boarder of emergent vegetation. Benefits of Type 5 wetlands include floodwater detention, fish and wildlife habitat, and opportunities for hunting, fishing, and canoeing.

- **Type 8 – Bog:** Type 8 wetlands primarily occur in northern portions of the state. Soils are usually waterlogged and covered in spongy moss. Typical bog-type wetland plants include heath shrubs, sphagnum moss, sedge, leatherleaf, laborador-tea, cranberries, and cottongrass. Black spruce and tamarack can be found scattered throughout Type 8 wetlands, though their growth is often stunted by the conditions. Typical benefits of Type 8 wetlands include peat harvesting, water quality, low-flow augmentation, and shoreland protection.

4.5.2 Potential Impacts

The Project is located in a forested landscape; as such, the majority of riparian areas surrounding lake and wetland areas consist of deciduous forest with smaller amounts of coniferous forest and pastureland. Since the license renewal essentially perpetuates current conditions, the Project is not anticipated to result in any new impacts to wetlands, riparian, and littoral resources, as the hydrologic regime of the reservoir would continue to be managed similar to present conditions.

4.6 Rare, Threatened, and Endangered Species

This section provides a description of the rare, threatened, and endangered (RTE) species for the Project and the FERC content requirements for this section are specified in 18 CFR §5.6(d)(3) (vii).

In Minnesota, RTE includes species are that are protected at the federal and/or state levels. The Project area contains a variety of terrestrial and aquatic habitats that may be utilized by federal and state-listed RTE species.

4.6.1 Federal Species Review

In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended, federal agencies are required to ensure the following two criteria:

1. Any action funded or carried out by such agency must not be likely to jeopardize the continued existence of any federally listed endangered or threatened species or species proposed to be listed.

2. No such action can result in the destruction or adverse modification of habitat of such species that is determined to be critical by the Secretary.

In accordance with Section 7, the Project area was evaluated to determine the potential presence of federally listed species. Since the license was issued in 1993, the bald eagle was delisted from the Endangered Species Act, although it still enjoys protection under the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act. An official list of ESA-listed species in the Project area was initially requested through the USFWS online Information, Planning, and Conservation System (IPaC) program on February 14, 2018 (Appendix G). According to the IPaC results, there is no federally designated critical habitat in the Project area, but the following federally listed species may occur in the vicinity of the Project: gray wolf (*Canis lupus*—threatened) and northern long-eared bat (*Myotis septentrionalis*—threatened) (28).

The gray wolf occupies diverse habitats, including forests, prairies, and swamps. The non-reservoir portions of the Project area and immediate vicinity are largely undeveloped forested areas, which may provide suitable habitat for the gray wolf.

The northern long-eared bat roosts in living and dead trees greater than three inches in diameter that have loose or peeling bark, cavities, or crevices. During winter, the northern long-eared bat hibernates in caves and mines. The Project is located within the mapped white-nose syndrome zone for the species (29). White-nose syndrome is an emergent disease in hibernating bats that causes extreme sickness and death. According to the USFWS and MNDNR Natural Heritage Inventory System (NHIS), there are no documented records of northern long-eared bats, roost trees, or hibernacula in the vicinity of the Project. The nearest known location is approximately 26 miles southwest (downstream) of the Project.

4.6.2 State Species Review

State-listed species were reviewed using the MNDNR NHIS database (license agreement number LA-674, Barr Engineering Co.). One state-listed species was identified in the vicinity of the Project: Blanding's turtle (*Emydoidea blandingii*—threatened). In Minnesota, this species adapts to a variety of wetland and riverine habitats across the state. Its preferred habitat includes wetland complexes and adjacent sandy uplands suitable for nesting. Calm, shallow waters, including wetlands associated with rivers and streams with rich, aquatic vegetation are especially preferred. Wetlands in the Project area may contain suitable Blanding's turtle habitat.

4.6.3 Potential Impacts

Given that license renewal essentially perpetuates current conditions, the Project is not anticipated to result in any new impacts to RTE species.

4.7 Recreation and Land Use

This section provides a description of the recreation and land use for the Project. The FERC content requirements for this section are specified in 18 CFR §5.6(d)(3)(viii).

4.7.1 Existing Environment

Land use within the Project area is primarily the open water reservoir upstream of the Brainerd Dam, followed by wetland and deciduous forest land uses. Land use near the Project is shown on Figure B-7 in Appendix B.

Lands and waters in the vicinity of the Project provide a variety of recreational opportunities to area residents and visitors, including a state water trail, boat launches, state hiking trails, snowmobile trails, and public recreation areas. Recreation opportunities are shown on Figure B-8 in Appendix B.

The Mississippi River's Headwaters River Trail begins at the river's source and flows 420 miles downstream, including through the Project, ending on the Minnesota/Iowa border. The River Trail is divided into 10 mapped segments, two of which overlap the Project: the Palisade-to-Brainerd segment and the Brainerd-to-Little Falls segment. Neither of these segments have major rapids requiring experienced paddling skills. These segments of the River Trail are accessible to users of all skill levels. Though a reach of the Mississippi River has been designated as Wild and Scenic River, it is located well downstream of the Project area (extending from St. Cloud to Anoka).

There are two trailer-accessible public boat ramps within the Project area, including one at Lum Park on Rice Lake and one at French Rapids on the Mississippi River. Carry-in boat access is available at Green's Point. Lum Park and Green's Point both provide users with fishing pier access, while Lum Park also hosts a picnic area and access to potable water. A canoe portage and restrooms are located at the Brainerd dam over the right embankment.

The Paul Bunyan State Trail is a 115-mile-long hiking trail located approximately 1.2 miles west of the Project, at the nearest point. It is the longest of Minnesota's state trails and the longest continuously paved rails-to-trails pathway in the United States. The trail is used for hiking, biking, inline-skating, and winter snowmobiling. The Paul Bunyan State Trail was inducted into the Rail-Trail Hall of Fame in 2011 based on scenic value, trailside amenities, and excellence in management and maintenance (30).

The Brainerd Snodeos, a local snowmobiling club, maintains 107 miles of groomed trails in the region, including the Harding Trail located south and east of the Project. The Merrifield Marathon snowmobile club maintains the Merrifield Trail located north of the Project. Though both of these snowmobile trails are in the vicinity of the Project, neither overlap the Project boundary.

The southern segment of the Cuyuna Country State Recreation Area (SRA) is located approximately 0.15 miles east of the upper portion of the Project area. Located atop an area of former mining pits and stockpiles, the Cuyuna Country SRA is one of Minnesota's newest SRAs. It consists of 5,000 acres of mostly undeveloped land and includes 25 miles of natural shoreline along small lakes (31). The Cuyuna Country SRA contains 29 drive-in camp sites, 4 walk-in sites, one group camping site, and three rental yurts. Other

recreational amenities include campground showers and flush toilets, vault toilets, potable water sources, carry-in boat access points, shore fishing areas, and trails for hiking and mountain biking (32).

4.7.2 Potential Impacts

Given that license renewal essentially perpetuates current conditions, the Project is not anticipated to result in any new impacts to recreational or land use. Maintaining water levels in the reservoir upstream of the Brainerd Dam helps maintain current recreational uses in Rice Lake and the Mississippi River.

4.8 Aesthetic Resources

This section provides a description of the aesthetic resources for the Project. The FERC content requirements for this section are specified in 18 CFR §5.6(d)(3) (ix).

4.8.1 Existing Environment

The Project is located within the Brainerd city limits and the reservoir extends north of the city through a primarily forested, rural residential setting. A variety of land uses, land covers, and terrain conditions along the Mississippi River provide a high level of landscape diversity, enhancing the aesthetics of the Project area. As a structure, the Brainerd Dam itself contributes to the aesthetics of the surrounding area.

4.8.2 Potential Impacts

Given that license renewal essentially perpetuates current condition, the Project is not anticipated to result in any new impacts to aesthetic resources.

4.9 Cultural Resources

This section provides a description of the cultural resources for the Project. The FERC content requirements for this section are specified in 18 CFR §5.6(d)(3)(x).

4.9.1 Existing Environment

The Project is located in an area that was historically occupied by the Dakota (Sioux) Indians before the arrival of French explorers and fur trappers. Brainerd Township was founded in 1870 when the Northern Pacific survey determined that the Mississippi River should be crossed in this location. The city of Brainerd was organized in 1873 and grew rapidly with the development of water power at a dam (now the Brainerd Dam) constructed across the Mississippi River in 1898 (5)).

Cultural resources inventories were completed in support of the initial FERC license in 1991. Phase I inventories were completed in 1989 and 1991 and included a literature and records search, followed by a complete reconnaissance survey along the reservoir shoreline. Nearly 70 locations with definite or apparent cultural evidence were identified. A Phase II National Register of Historic Places (NRHP) evaluation for cultural resources identified in the Phase I effort was also completed in 1991. The Phase II evaluation included a more detailed assessment of Phase I-identified sites. A number of the sites were excluded from further study either due to their location (well outside of the reservoir impact zone) or being located in a highly disturbed setting with little potential for cultural significance. Upon conclusion of

the Phase II effort, a total of 34 sites were considered eligible for NRHP listing, most of which were prehistoric archaeological sites (33).

The Brainerd Dam was also evaluated for NRHP eligibility in 1991. The dam itself was not eligible for the NRHP due to significant modifications to the original structure. The powerhouse was evaluated based on its original purpose, as a means to produce power for the paper mill. Two pocket grinders were found located in their original positions within the grinder room in the powerhouse. As a result, the grinder room was determined to be eligible for the NRHP under Criterion C (34).

A Cultural Resources Management Plan (CRMP) has been developed for the Project. This requires the Licensee to inspect previously identified cultural resources for evidence of site-altering activity and to file reports describing the implementation of the CRMP every 3 years. Based on the 2017 Cultural Resources Monitoring inspection, four sites were recommended to be evaluated for mitigation due to potential erosion impacts.

4.9.2 Potential Impacts

Based on the location of several cultural resources sites in close proximity to the reservoir, continued operations of the Project may cause cultural resources impacts associated with erosion to be perpetuated. Also, it is possible that additional cultural resources may now be present in the Project area that were either not identified during the 1991 survey or were not eligible for listing at that time.

4.10 Socio-Economic Resources

This section provides a description of the socio-economic resources for the Project. The FERC content requirements for this section are specified in 18 CFR §5.6(d)(3)(xi).

4.10.1 Existing Environment

The Project is primarily located in a rural setting of northern Minnesota, in the city of Brainerd. Land use within the Project area is primarily the open water reservoir upstream of the Brainerd Dam, followed by wetland and deciduous forest land uses. Demographic information for the Project area and surrounding vicinity is summarized in Table 4-3.

Table 4-3 Demographic Overview

Location	Population	Per-Capita Income	Population below Poverty Level	Minority Population	Predominant Race	Predominant Minority
Project Area[1]	2,443	$22,907	Not listed	5%	White (95%)	Hispanic (2%)
City of Brainerd	13,590	$18,948	21.8%	4%	White (96%)	American Indian (1%)
Crow Wing County	62,500	$27,936	11.3%	3%	White (97%)	American Indian (1%)
Statewide	5,303,924	$30,894	28%	12%	White (89%)	American Indian (5%)

[1] Analysis completed using the EPA's EJ Screen tool (35) and assessing a 0.25-mile buffer around the Project boundary.

Based on 2010 census data, nearly half of the population of the city of Brainerd is employed. Primary employment industries include educational services and healthcare (22%), retail trade (18%), and entertainment/recreation (16%). Similarly, nearly half of the population of Crow Wing County is employed. Primary employment industries in Crow Wing County include educational services and healthcare (24%), retail trade (15%), and entertainment/recreation (12%). Within the Project area, 65% of the population is employed, presumably in industries similar to those that employ residents of the city of Brainerd.

4.10.2 Potential Impacts

Given that license renewal essentially perpetuates current conditions, the Project is not anticipated to result in any new impacts to the socioeconomic conditions in the Project area and surrounding region.

4.11 Tribal Resources

This section provides a description of the tribal resources for the Project. The FERC content requirements for this section are specified in 18 CFR §5.6(d)(3)(xii).

4.11.1 Existing Environment

In Minnesota, there are 11 recognized Native American tribes, including seven Chippewa (Ojibwe) communities and four Dakota (Sioux) communities. Chippewa (Ojibwe) communities in the state include Bois Forte, Fond du Lac, Grand Portage, Leech Lake, Mille Lacs, Red Lake, and White Earth. Dakota (Sioux) communities in the state include Prairie Island, Shakopee Mdewakanton, Lower Sioux, and Upper Sioux.

In addition to the eleven recognized Native American tribes in Minnesota, the FERC Initial Consultation Contact List for Minnesota identifies the following tribes that may also have an interest in licensing: Santee Sioux of Nebraska and Otoe-Missouria Tribe of Indians of Oklahoma (36).

FERC distributed "Consultation with Tribes for the Brainerd Hydroelectric Project" letters on October 11, 2017. This letter was distributed to additional tribes beyond those identified above that may have an interest in the relicensing process. They include the Red Cliff Band of Lake Superior Chippewa Indians of Wisconsin, the Sokaogon Chippewa Community (Wisconsin), the Bad River Band of Lake Superior Tribe of Chippewa Indian (Wisconsin), the Lac du Flambeau Band of Lake Superior Indians of Wisconsin, the Menominee Indian Tribe of Wisconsin, the St. Croix Chippewa Indians of Wisconsin, the Iowa Tribe of Kansas and Nebraska (Iowa),the Keweenaw Bay Indian Community (Michigan), the Lac Vieux Desert Band of Lake Superior Chippewa Indians of Michigan, the Fort Belknap Indian Community of the Fort Belknap Reservation of Montana, the Apache Tribe of Oklahoma, and the Cheyenne and Arapaho Tribes of Oklahoma.

There are no reservation lands within the Project area, nor are there any known lands of ceremonial or religious significance or other traditional cultural properties within the Project area.

4.11.2 Potential Impacts

Based on information received by several tribes that have responded to initial consultation, the project area lacks tribal resources. In addition, given that license renewal essentially perpetuates current

conditions, if tribal resources were present, the Project is not anticipated to result in any new impacts to them.

4.12 River Basin Description

Per CFR § 5.6(d)(e)(xiii)), this section is intended to refer to a proposed project. Since a new project is not proposed as part of this relicensing effort, this section is not applicable. Information describing the existing Project is included in Section 4.2.1

5.0 Preliminary Issues and Studies List

This section provides a description of the preliminary issues for each environmental resource, as well as a proposed studies list. The FERC content requirements for this section are specified in 18 CFR §5.6(d)(4), with some modifications for readability.

To determine if additional information is needed to understand the effects that the Project may have on area resources, the PAD includes discussion of:

- Issues pertaining to the identified resources.
- Potential studies and information-gathering requirements.
- Relevant federal and state or tribal water plans.
- Relevant resource management plans.

To assist in the identification of issues that should be evaluated in the relicensing process, various state, federal, and local resource agencies and NGOs were contacted to request existing information about resources at the Project or in the Project area, as described in Section 4.0. In addition, the original license and associated environmental assessment were reviewed. Since the proposed license renewal will not result in a change of project operation, it is concluded that no new issues beyond those contemplated in the original license and environmental assessment are likely to occur.

5.1 Summary of Preliminary Issues by Resource

This section identifies existing known or potential effects of the Project to resources identified in Section 4.0. For the purposes of this PAD, potential effects considered include changes to the natural and human environment as a result of continued operation under the relicensed Project, as discussed below.

5.1.1 Geology and Soils

Background shoreline erosion is a natural process associated with river flows and water level fluctuations. However, the Project is operated as a run-of-river operation and does not artificially change flows or water elevations outside of 0.1 foot of variation, as described in the license. As such, new effects to geology and soils, including shoreline erosion, are not expected as a result of the Project. Therefore, geology and soils are not expected to be issues with the license renewal.

5.1.2 Water Resources

The Project is operated as run-of-river. This reach of the Mississippi River has been identified as impaired for mercury in fish tissue and total suspended solids (TSS). The Project does not presently contribute to the impairments and is not expected to alter water quality in the future. Therefore, effects to water resources are not expected to be issues with the license renewal.

5.1.3 Fish and Aquatic Resources

As described in the 1993 license, fluctuating reservoir levels can affect fish spawning success. In addition, a dam can serve as a barrier to fish movements or result in fish entrainment. In some situations fish can become impinged on intake screens resulting in mortality. As described in the license, the project is operated as a run-of-river in order to minimize adverse impacts to aquatic resources.

This license renewal is expected to continued Project operations as authorized in the 1993 license and therefore will minimize impacts to aquatic resources. However, existing potential for fish to become impinged or entrained in the Project area will likely continue.

5.1.4 Wildlife and Botanical Resources

BPU operates the Project in run-of-river mode for the protection of fish and wildlife resources in the Mississippi River, meaning that water is discharged at approximately the same rate as it enters the reservoir. Since operational changes are not proposed as part of the relicensing effort, continued operation of the Project is expected to maintain aquatic habitats that support existing wildlife and botanical resources in the Project area. Therefore, effects to wildlife and botanical resources are not expected to be issues with the license renewal.

5.1.5 Wetlands, Riparian, and Littoral Habitat

BPU operates the Project in run-of-river mode, which limits water elevation fluctuations with 0.1 feet. Given this small elevation variation and since the license renewal essentially perpetuates current conditions, the Project is not anticipated to result in any new impacts to wetlands, riparian, and littoral resources, as the hydrologic regime of the reservoir would continue to be managed similar to present conditions.

5.1.6 Rare, Threatened, and Endangered Species

Of the protected species identified, only the state-listed Blanding's turtle could be potentially affected by the project. Since the license renewal essentially perpetuates current conditions, the Project is not anticipated to result in any new impacts to wetlands or riparian, and therefore is unlikely to result in issues associated with Blanding's turtle, as this species adapts to a variety of wetland and riverine habitats across the state. In addition, bald eagles are known to be in the project area. However, issues associated with the license renewal are unlikely to occur for similar reasons as described above for the Blanding's turtle.

5.1.7 Recreation and Land Use

Maintaining water levels in the reservoir upstream of the Brainerd Dam helps maintain current recreational uses in Rice Lake and the Mississippi River. Given that license renewal essentially perpetuates current conditions, the Project is not anticipated to effect recreation or land use. Therefore, effects to recreation and land use are not expected to be issues with the license renewal.

5.1.8 Aesthetic Resources

Aesthetics are anticipated to remain unchanged; as such, Project-related effects to aesthetic resources are not expected. Therefore, effects to aesthetic resources are not expected to be issues with the license renewal.

5.1.9 Cultural Resources

Based on the location of several known cultural resources sites in close proximity to the reservoir, continued operations of the Project may cause cultural resources impacts associated with erosion to be perpetuated. In addition, it is possible that cultural resources may now be present in the Project area that were either not identified in previous surveys or were not eligible for listing at that time.

5.1.10 Socio-Economic Resources

License renewal is not anticipated to affect socioeconomic conditions in the Project area and surrounding region.

5.1.11 Tribal Resources

Based on the responses from tribes received to date, the project area does not contain tribal resources. . Therefore, effects to tribal resources are not expected to be issues with the license renewal. If information is received from other tribes that tribal resources may be present, this issue will be reassessed.

5.2 Proposed Studies by Resource

BPU has considered the need for studies to better understand potential impacts associated with each environmental resource considered in the PAD. The following sections describe BPU-proposed studies, by resource.

5.2.1 Geology and Soils

No studies are proposed for geology or soils. There is adequate information readily available regarding geology, shoreline erosion, and soils, and continued operation of the Project is anticipated to have no effect; therefore, no further studies are necessary.

5.2.2 Water Resources

No water resources studies are proposed. There is adequate information readily available regarding water resources, and continued operation of the Project is anticipated to have no effect; therefore, no further studies are necessary.

5.2.3 Fish and Aquatic Resources

The original license called for implementing a run-of-the river monitoring plan to assist in managing flows to minimize risks to aquatic resources. There is adequate information readily available regarding aquatic resources, and continued operation of the Project is not anticipated to have new effects beyond those contemplated in the original license; therefore, no further studies are necessary.

5.2.4 Wildlife and Botanical Resources

Since there are no operational changes associated with the Project, no change in potential effects on wildlife and botanical resources are anticipated. As such, no wildlife or botanical studies are proposed.

5.2.5 Wetlands, Riparian, and Littoral Habitat

The original license called for implementing a run-of-the river monitoring plan to assist in managing flows to minimize impacts. There is adequate information readily available regarding wetland, riparian and littoral habitat, and continued operation of the Project is not anticipated to have new effects beyond those contemplated in the original license; therefore, no further studies are necessary.

5.2.6 Rare, Threatened, and Endangered Species

As described in section 5.1.6, the proposed license renewal is unlikely to have impacts on RTE species. There is adequate information readily available regarding RTE species, and continued operation of the Project is not anticipated to have new effects beyond those contemplated in the original license; therefore, no further studies are necessary.

5.2.7 Recreation and Land Use

Although impacts to recreation and land use are not anticipated, BPU proposed to conduct a **Recreation and Inventory Planning Assessment** to inventory and assess usage of Project-based public recreation facilities.

5.2.8 Aesthetic Resources

No aesthetic resources studies are proposed. There is adequate information readily available regarding aesthetic resources, and continued operation of the Project is not anticipated to have new effects beyond what was contemplated in the original license; therefore, no further studies are necessary.

5.2.9 Cultural Resources

BPU proposes a **Cultural Resources Inventory Plan** to assess cultural resources survey needs moving forward, upon relicensing.

5.2.10 Socio-Economic Resources

No socio-economics resources studies are proposed. There is adequate information readily available regarding socio-economic resources, and continued operation of the Project is not anticipated to have new effects beyond what was contemplated in the original license; therefore, no further studies are necessary.

5.2.11 Tribal Resources

Based on feedback received from several tribes, it is BPU's understanding that there are no tribal resources in the Project area (see Appendix H). Therefore, no tribal resources studies are proposed. If BPU receives information from tribes through consultation that tribal resources may be present, additional studies may be proposed.

6.0 Summary of Contacts

This section provides a description of the information gathered during the development of the PAD, including the parties contacted for information. The FERC content requirements for this section are specified in 18 CFR §5.6(d)(5), with some modifications for readability.

To initiate early communication and coordination, an early notification package to federal, state, and local agencies and other interested parties was distributed on August 10, 2017, with additional mailings distributed to relevant parties on August 25, 2017, and September 21, 2017. The scoping package included a brief description of the Project, as well as a location map. Agency responses were solicited to ensure that relevant environmental and social conditions were considered in development of this document. In addition, FERC distributed "Consultation with Tribes for the Brainerd Hydroelectric Project" letters on October 11, 2017, to tribes that may have an interest in the Project. Appendix H contains agency scoping materials, including a list of entities contacted.

Six responses were received in response to the mailings. Comments from these resource agencies provide valuable insight on resources to be considered in Project development. Appendix H contains agency scoping responses.

Conference calls were held with staff from SHPO on November 8, 2017, and with MNDNR staff on November 9, 2017. The purpose of these calls was to discuss the Project with the agencies and to gain preliminary input on studies that agencies may request as part of the Project. The USACE and USFWS were also contacted to participate in conference calls; however, these agencies deferred their involvement until after the Project NOI has been issued.

7.0 Communication Plan

Communication is essential to achieve the defined schedule of the ILP and for a timely and cost-effective relicensing process. BPU anticipates using meetings, reports, and emails for communication.

7.1 Participants

Participation levels in the FERC relicensing process varies based on frequency and type of communication. BPU will maintain a list of participants, which includes a broad group of individuals, agencies, and NGOs, that are interested in relicensing. This group will receive distribution notices by email for documents for public review. Anyone can be added to the participant list by contacting one of BPU's representatives. FERC may maintain an independent list based on the level of participation in the relicensing process. BPU will work to keep all participants notified of upcoming public meetings or updates to public documents.

7.2 Meetings

The ILP regulations require meetings at various times throughout the relicensing process. The process plan and schedule in Appendix A identifies those meetings. Some of the meetings are the responsibility of FERC and some are the responsibility of BPU.

For meetings conducted by FERC, such as the Public Scoping Meeting, BPU anticipates FERC will provide public notice in advance and that FERC will lead the meetings. For meetings conducted by BPU, public notice will be provided in advance and meeting summaries will be provided after the meeting. Meeting notices and summaries will be posted on the BPU website.

7.3 Documents

The ILP regulations require a number of documents be prepared throughout the relicensing process. Some documents are the responsibility of FERC and some are the responsibility of BPU. These documents are identified in the process plan and schedule in Appendix A. For documents issued by FERC, BPU anticipates FERC will distribute documents in accordance with standards and that all documents issued or received by FERC will be publically available in the "elibrary" on FERC's website at www.ferc.gov. Participants in the relicensing process can register to receive notice each time FERC posts a document to the website regarding the Project's relicensing process. To register, go to www.ferc.gov and click on "Documents and Filing," and then "eSubscription" and follow the website instructions.

For documents issued by BPU, files can be accessed on the relicensing webpage. The webpage address is http://bpu.org/our-services/electric/hydro/. BPU will maintain a relicensing webpage, providing access to the process schedule and relicensing information.

BPU will maintain a public information file for the relicensing project. The file will contain important public materials pertaining to the relicensing per FERC's regulations at 18 CFR §§ 4.32(b), 5.2, 5.6(c)(2), and 16.7. The public reference file includes background reference material and data collected during the development of the PAD, public meeting summaries, notices, and relevant Project documents such as the current FERC license. Public files will be updated regularly.

Parties interested in obtaining copies of material from the public information file may send a written request by email or U.S. Mail. Electronically distributed copies will be provided for free and parties requiring hard copies will be provided such after BPU obtains reimbursement for postage fees and reproduction costs. These materials will be provided to the USFWS, MNDNR, and Indian Tribes without charge for the costs of reproduction or postage upon request.

Certain Project-related documents are restricted from public viewing in accordance with FERC regulations. Critical Energy Infrastructure Information (CEII) (18 CFR 388.113) related to the design and safety of dams and appurtenant facilities and information necessary to protect national security and public safety are restricted. Anyone seeking CEII information must file a CEII request with FERC. FERC's website www.ferc.gove.help/how -to/file-ceii.asp contains additional details related to CEII.

Privileged information (18 CFR 388.112) covers other materials that may be restricted due to containing trade secrets, confidential information, or the location of sensitive species. Information related to protecting sensitive archaeological information also is restricted under Section 106 of the National Historic Preservation Act (NHPA). Anyone seeking privileged information from FERC must file a Freedom of Information Act (FOIA) request. Instructions for filing FOIA requests are available on FERC's website www.ferc.gov/legal/ceii-foia/foia.asp.

7.4 Document Distribution

BPU will distribute all documents electronically in portable document format (PDF) format. Documents will be publicly available on the BPU relicensing webpage, http://bpu.org/our-services/electric/hydro/ or on the "eLibrary" on www.ferc.gov. Distribution of information will follow the guidelines presented in Table 7-1.

Table 7-1 Information Distribution Guidelines

Document	Method	Distribution
PAD information gathering	Email or online download	Agencies and website
Public meeting notices	Email or online download and/or newspaper	Website
Meeting agendas	Email or online download	Website
Meeting summaries	Email or online download	Website
Process plan and schedule	Email or online download or website	Website
Major documents: PAD, FERC scoping documents, proposed study plans, study reports, draft and final license application	Email or online download, available at BPU location or online at FERC.gov	Interested parties
PAD support documents	Email or online download	Website on request

Communication is essential to achieve the defined schedule of the ILP and for a timely and cost-effective relicensing process. BPU anticipates using meetings, reports, emails, and telephone for communication.

8.0 References

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Appendix A: Process Plan and Schedule

A. Process Plan and Schedule

This appendix provides a description of the process plan and schedule. The Federal Emergency Regulatory Commission (FERC) content requirements for this section are specified in 18 CFR §5.6(d)(1) with some modifications for readability. The PAD is required to include a plan and schedule for all pre-application activities that includes time frames for pre-filing consultation, information gathering, and studies.

A.1 Process Plan and Schedule Overview

The process plan and schedule outline actions required to be taken by the FERC, Brainerd Public Utilities (BPU), and/or other participants in the Integrated Licensing Process (ILP) through the filing of the license application. BPU developed the process plan and schedule using the timeframes set forth in 18 CFR Part 5. BPU based the dates in the Notice of Intent (NOI)/ Pre-Application Document (PAD) filing date of February 28, 2018. All subsequent dates in the process plan and schedule are derived from the date the NOI/PAD is filed. Because some of the dates given are flexible, the process plan and schedule are subject to change throughout the relicensing process. If the deadline fell on a holiday or weekend, the deadline was adjusted to the next business day. BPU will provide updates on the schedule to relicensing participants over the course of the relicensing process.

A.1.1 Dispute Resolution

BPU has included timeframes for formal dispute resolution (18 CFR §5.14) in the process plan and schedule even though any study disputes may be resolved through informal dispute resolution.

A.1.2 Deadline

The license application must be filed no later than 2 years before license expiration, but could be filed earlier.

A.2 Process Plan and Schedule Phases

The process plan and schedule have been separated into the following five distinct phases:

- Phase 1: Relicensing Initiation (Figure A-1, Table A-1)
- Phase 2: Scoping Document Process (Figure A-1, Table A-2)
- Phase 3: Study Plan Development (Figure A-1, Table A-3)
- Phase 4: Conduct Studies (Figure A-2, Table A-4)
- Phase 5: Filing of License Application (Figure A-2, Table A-5)

A.3 Process Plan and Schedule Figures

The process plan and schedule are graphically presented in Figure A-1 and Figure A-2. Phase 1 – Phase 4, described in Section A.2, are separated in the figures by using a dashed black line to indicate a new phase. Activities in Phase 5 are represented using blue text boxes and blue arrows. The figure includes

four rows—a timeline showing milestone dates and a row for each of the responsible parties (BPU, FERC, and Participants).

A.4 Process Plan and Schedule Tables

The process plan and schedule is tabulated in Table A-1 through Table A-5. Each table represents a phase of the process plan.

Figure A-1: Integrated Relicensing Process – Brainerd Hydroelectric Project

Phase 1 - Relicensing Initiation | **Phase 2 – Scoping Document Process** | **Phase 3 - Study Plan Development**

Timeline

Feb-18 | Mar-18 | Apr-18 | May-18 | Jun-18 | Jul-18 | Aug-18 | Sep-18 | Oct-18 | Nov-18 | Dec-18 | Jan-19 | Feb-19

- Feb 28, 2018 — **NOI/PAD Filing Deadline**
- Mar 30, 2018 — **Initial Tribal Consultation Meeting Deadline**
- April 30, 2018 — **FERC Notices NOI/PAD and Issues SD1**
- May 30, 2018 — **Public Scoping Meeting and Site Visit**
- June 29, 2018 — **File Comments on NOI, PAD, and SD1; Study Request Due**
- Aug 13, 2018 — **Issue SD2 (if necessary) File PSP**
- Sep 12, 2018 — **Initial Study Plan Meeting**
- Nov 12, 2018 — **Comments on PSP**
- Dec 12, 2018 — **File RSP**
- Dec 27, 2018 — **RSP Comments**
- Jan 11, 2019 — **Determination**
- Jan 31, 2019 — **Dispute/Approval**

Brainerd Public Utilities

Prepare Notice of Intent (NOI)

Prepare Pre-Application Document (PAD)

Filing of Notice of Intent (NOI)
18 CFR § 5.5, 5.5(d)

Request to Be Non-Federal Representative under Section 7 of ESA
18 CFR § 5.5(e)

Request to Initiate Consultation under Section 106 of the NHPA
18 CFR § 5.5(e)

Filing of Pre-Application Document (PAD)
18 CFR § 5.6, 5.6(a)

Deadline 2/28/2017

Within 45 Days SD1 Comment Deadline

Within 30 Days of PSP

File Proposed Study Plan (PSP)
18 CFR § 5.11(a)

File Proposal for Conducting Study Plan Meeting(s) during 90-day PSP Review Period
18 CFR § 5.11(e)

Deadline: 8/13/2018

Conduct Initial Study Plan Meeting
18 CFR § 5.11(e)

Deadline: 9/12/2018

Within 30 Days of PSP

File Revised Study Plan (RSP)
18 CFR § 5.13(a)

Deadline: 12/12/2018

FERC

Within 60 Days of NOI/PAD

Within 30 Days NOI/PAD

Initial Tribal Consultation Meetings
18 CFR § 5.7

Deadline: 3/30/2018

Within 30 Days Notice

Notice of Commencement of Proceedings and Scoping Document 1
18 CFR § 5.8, 5.8(a)

Issue Notice of NOI/PAD and Request for Comment
18 CFR § 5.8(a)(b), 5.8(b)(iv)

Decision Regarding Request under Section 7 of the ESA and/or Section 106 of the NHPA
18 CFR § 5.8(b)(2)

Issue Scoping Document 1 (SD1)
18 CFR § 5.8(C)

Deadline: 4/30/2018

Public Scoping Meeting and Site Visit

18 CFR § 5.8(b)(3)(viii)

Deadline: 5/30/2018

Within 45 Days SD1 Comment Deadline

Issue Scoping Document 2 (SD2) (if necessary)
18 CFR § 5.10

Deadline: 8/13/2018

Within 30 Days of RSP

Issue Study Plan Determination
18 CFR § 5.13(c)

Deadline: 1/11/2019

Within 20 Days

Study Plan Approved (if notice of study dispute is not filed)
18 CFR § 5.13(d)

Deadline: 1/31/2019

Participants

Within 60 Days Notice

File Comments on NOI, PAD, and SD1; Provide Study Requests

18 CFR § 5.9(a)

Deadline: 6/29/2018

Within 90 Days after PSP is Filed

File Comments on PSP or Submit Revised Study Requests
18 CFR § 5.12

Deadline: 11/12/2018

15 Days

File Comments on Revised Study Plan (RSP)
18 CFR § 5.13(b)

Deadline: 12/27/2018

Within 20 Days

File Notice of Study Dispute (Mandatory Conditioning Agency)
18 CFR § 5.13(d), 5.14(a)

Deadline: 1/31/2019

Figure A-2: Integrated Relicensing Process – Brainerd Hydroelectric Project

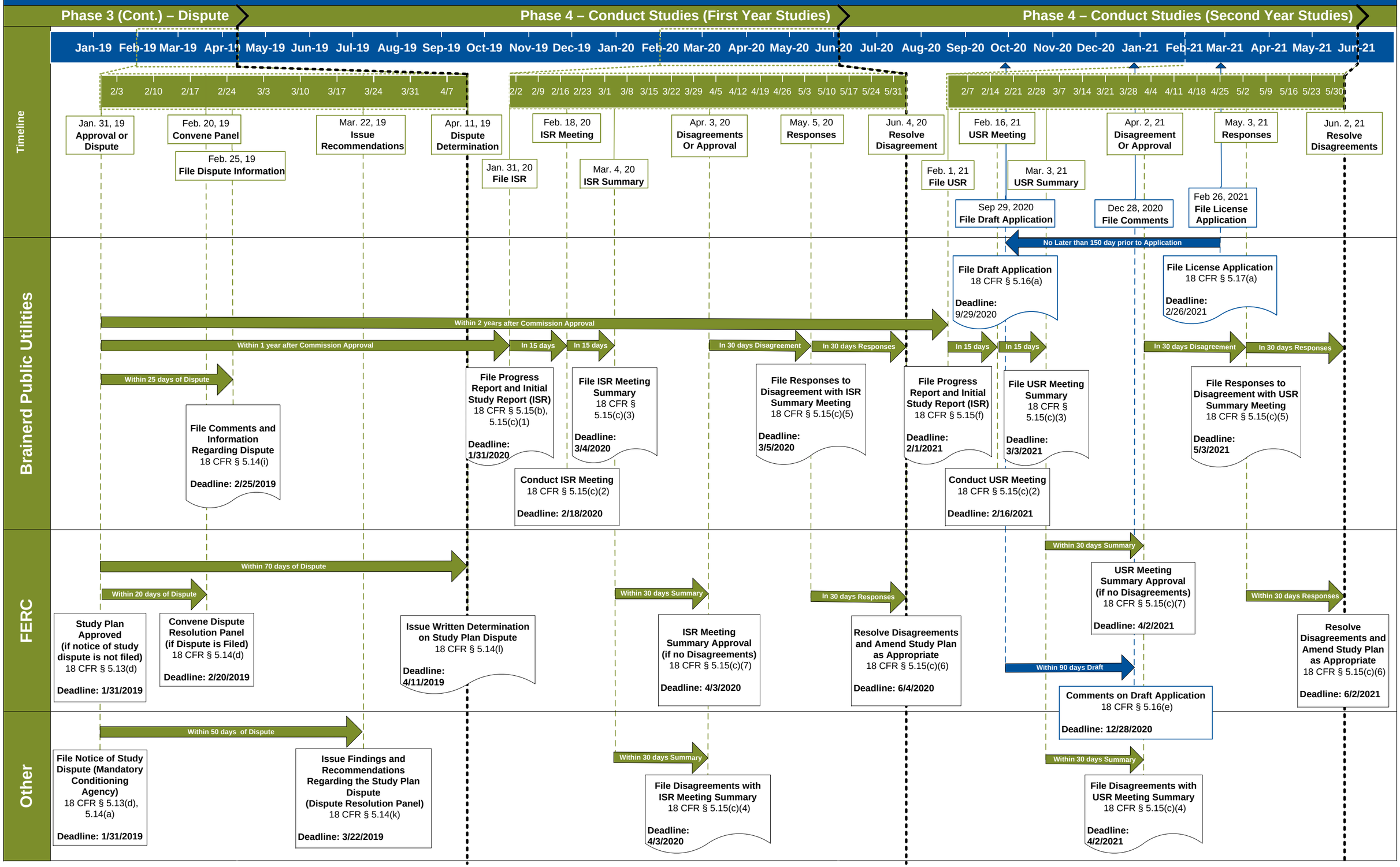


Table A-1 Process Plan and Schedule – Phase 1: Relicensing Initiation

Relicensing Initiation				
FERC 18 CFR §	**Relicensing Activity**	**Responsible Party**	**Activity Time Frame**	**Deadline**
5.5 5.5 (d) 5.5(e) 5.5(e)	**Filing of NOI** Request to be non-federal representative under Section 7 of the Endangered Species Act (ESA) Request to initiate consultation under Section 106 of the National Historic Preservation Act (NHPA)	BPU	5 to 5½ years prior to existing license expiration. Filed concurrent with the PAD.	February 28, 2018
5.6 5.6(a)	**Filing of PAD**	BPU	5 to 5½ years prior to existing license expiration. Filed concurrent with NOI.	February 28, 2018

Table A-2 Process Plan and Schedule – Phase 2: Scoping Document Process

Scoping Document Process				
FERC 18 CFR §	**Relicensing Activity**	**Responsible Party**	**Activity Time Frame**	**Deadline**
5.7	**Initial tribal consultation meeting**	FERC	Within 30 days following filing of NOI/PAD.	March 30, 2018
5.8 5.8(a) 5.8(a)(b) 5.8(b)(iv) 5.8(b)(2) 5.8(c)	**Notice of commencement of proceeding and scoping document** Issue notice of NOI/PAD and request for comments Decision regarding licensee request to initiate informal consultation under Section 7 of the ESA and/or Section 106 of the NHPA **Issue scoping document 1 (SD1)**	FERC	Within 60 days of filing NOI/PAD	April 30, 2018[1]
5.8(b)(3)(viii)	**Conduct public scoping meeting and site visit**	FERC	Within 30 days of the notice of commencement of proceeding	May 30, 2018
5.9(a)	File comments on NOI/PAD and SD1, and provide study requests	Participants	Within 60 days following the notice of commencement of proceeding	June 29, 2018
5.10	Issue scoping document 2 (SD2, if necessary)	FERC	Within 45 days following the deadline for filing of comments on SD1	August 13, 2018

[1] Deadline was adjusted from a holiday or weekend to the following business day.

Table A-3 Process Plan and Schedule – Phase 3: Study Plan Development

Study Plan Development				
FERC 18 CFR §	**Relicensing Activity**	**Responsible Party**	**Activity Time Frame**	**Deadline**
5.11(a) 5.11(e)	**File proposed study plan** File proposal for conducting study plan meeting(s) during 90-day proposed study plan review period	BPU	Within 45 days following the deadline for filing of comments on the PAD and providing study plan requests	August 13, 2018
5.11(e)	**Conduct initial study plan meeting**	BPU	No later than 30 days after the deadline date for filing the proposed study plan	September 12, 2018
5.12	File comments on proposed study plan or submit revised study requests	Participants	Filed within 90 days after the proposed study plan is filed	November 12, 2018[1]
5.13(a)	File revised study plan	BPU	Within 30 days following the deadline for filing comments on the proposed study plan	December 12, 2018
5.13(b)	File comments on revised study plan	Participants	Within 15 days following filing of the revised study plan	December 27, 2018
5.13(c)	Issue study plan determination	FERC	Within 30 days following filing of revised study plan	January 11, 2019
5.13(d) 5.14(a)	**File notice of study dispute**	Mandatory conditioning agencies	Within 20 days of the study plan determination	January 31, 2019
5.13(d)	**Study plan approved, if no notice of study dispute is filed**	FERC	20 days following study plan determination	January 31, 2019
Formal Study Dispute Resolution Process (if necessary)				
5.14(d)	Convene dispute resolution panel, if notice of study plan dispute is filed	FERC	Within 20 days of the notice of study dispute	February 20, 2019
5.14(i)	File with Commission and serve upon panel members comments and information regarding dispute	BPU	No later than 25 days following the notice of study dispute	February 25, 2019
5.14(k)	Issue findings and recommendations regarding the study plan dispute to Director of the Office of Energy Projects	Dispute resolution panel	No later than 50 days following the notice of study dispute	March 22, 2019
5.14(l)	Issue written determination on study plan dispute	FERC	No later than 70 days from the date of filing of the notice of study dispute	April 11, 2019

[1] Deadline was adjusted from a holiday or weekend to the following business day.

Table A-4 Process Plan and Schedule – Phase 4: Conduct Studies

Conduct Studies				
FERC 18 CFR §	**Relicensing Activity**	**Responsible Party**	**Activity Time Frame**	**Deadline**
5.15(a)	Conduct first-year studies (for plans not under dispute)	BPU	February 2019–December 2019	
5.15(b) 5.15(c)(1)	File progress report and initial study report (ISR)	BPU	Within one year after Commission approval of study plan	January 31, 2020
5.15(c)(2)	Conduct ISR meeting	BPU	Within 15 days of filing ISR	February 18, 2020[1]
5.15(c)(3)	File ISR meeting summary, including any study modification or new studies	BPU	Within 15 days following the ISR meeting	March 04, 2020
5.15(c)(4)	File disagreement with ISR meeting summary	FERC and participants	Within 30 days following the filing of the ISR meeting summary.	April 03, 2020
5.15(c)(7)	If no disagreements are filed, approve ISR meeting summary and any proposed study plan amendments	FERC	30 days after filing of the ISR meeting summary	April 03, 2020
5.15(c)(5)	If disagreements are filed, file responses to disagreement with ISR meeting summary	BPU	Within 30 days of the filing of disagreement with ISR meeting summary	May 05, 2020[1]
5.15(c)(6)	Resolve disagreements and amend approved study plan as appropriate	FERC	Within 30 days following the due date for responses to disagreement	June 04, 2020
5.15(f)	Conduct second-year studies (for plans not under dispute)	BPU	January 2020–December 2020	
5.15(f)	File updated study report (USR)	BPU	Within 2 years of Commission approval of study plan	February 01, 2021
5.15(c)(2)	Conduct USR meeting	BPU	Within 15 days of filing the USR	February 16, 2021
5.15(c)(3)	File USR meeting summary, including any study modification or new studies	BPU	Within 15 days following the USR meeting	March 03, 2021
5.15(c)(4)	File disagreement with USR meeting summary	FERC and participants	Within 30 days following the filing of the USR meeting summary	April 02, 2021
5.15(c)(7)	If no disagreements are filed, approve USR meeting summary and any proposed study plan amendments	FERC	30 days after filing of the USR meeting summary	April 02, 2021
5.15(c)(5)	If disagreements are filed, file responses to disagreement with USR meeting summary	BPU	Within 30 days of the filing of disagreement with USR meeting summary	May 03, 2021[1]
5.15(c)(6)	Resolve disagreements and amend approved study plan as appropriate	FERC	Within 30 days following the due date for responses to disagreement	June 02, 2021

[1] Deadline was adjusted from a holiday or weekend to the following business day

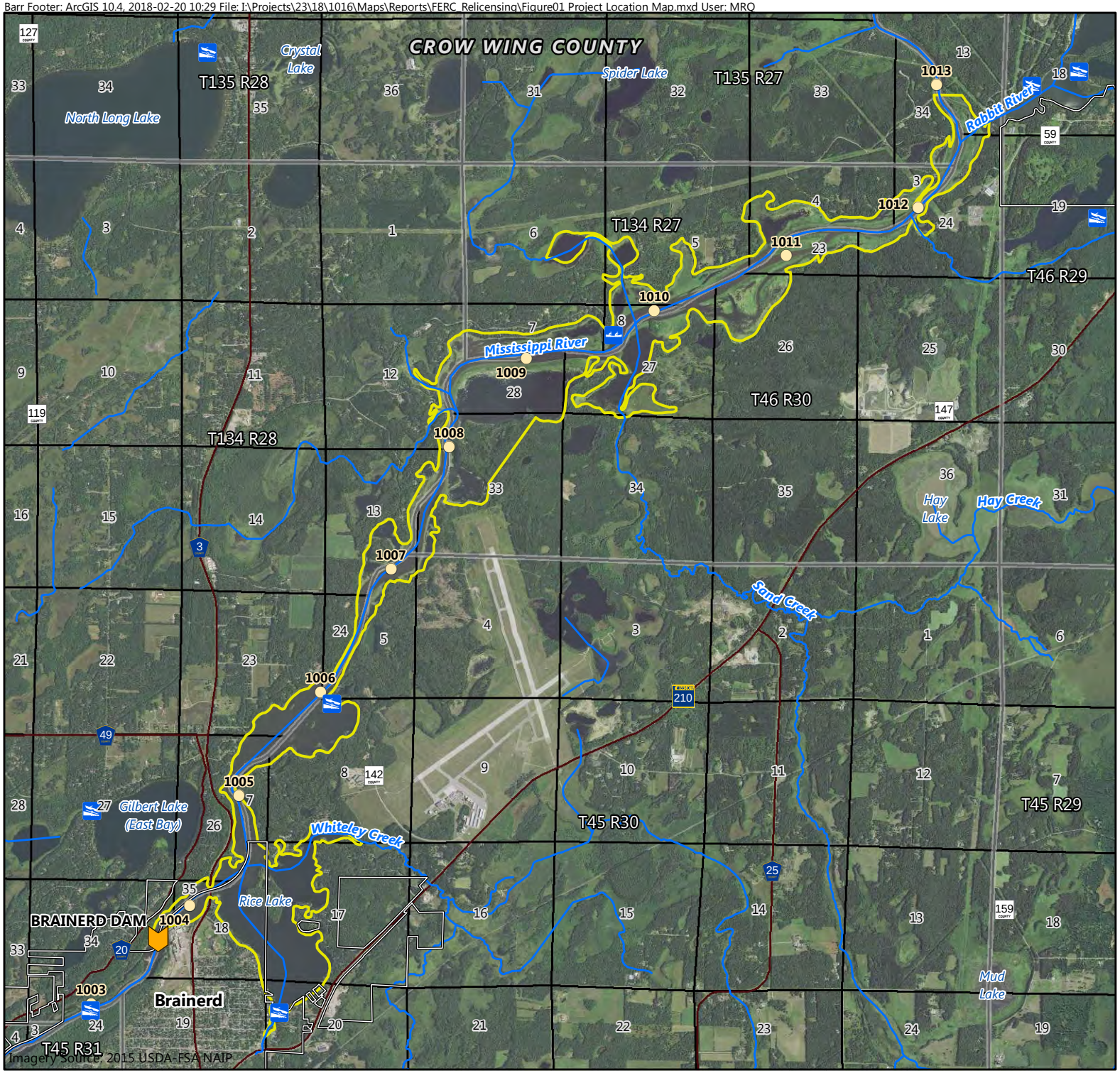
Table A-5 Process Plan and Schedule – Phase 5: Filing of License Application

Filing of License Application				
FERC 18 CFR §	**Relicensing Activity**	**Responsible Party**	**Activity Time Frame**	**Deadline**
5.16(a)	**File preliminary licensing proposal or draft application**	BPU	No later than 150 days prior to the deadline for filing a new license application	September 29, 2020
5.16(e)	**File comments on preliminary licensing proposal or draft license application**	FERC and participants	Within 90 days of the filing date of the preliminary licensing proposal or draft application	December 28, 2020[1]
5.17(a)	**File license application**	BPU	No later than 24 months before the existing license expires	February 26, 2021
	License expiration			February 28, 2023

[1] Deadline was adjusted from a holiday or weekend to the following business day

Appendix B: Project Maps

Barr Footer: ArcGIS 10.4, 2018-02-20 10:29 File: I:\Projects\23\18\1016\Maps\Reports\FERC_Relicensing\Figure01 Project Location Map.mxd User: MRQ



- Carry-in/Portage
- Trailer Launch
- River Mile Marker
- Dam Location
- Major Highway
- Project Boundary
- Corporate Limits
- PLSS Township
- PLSS Section

N

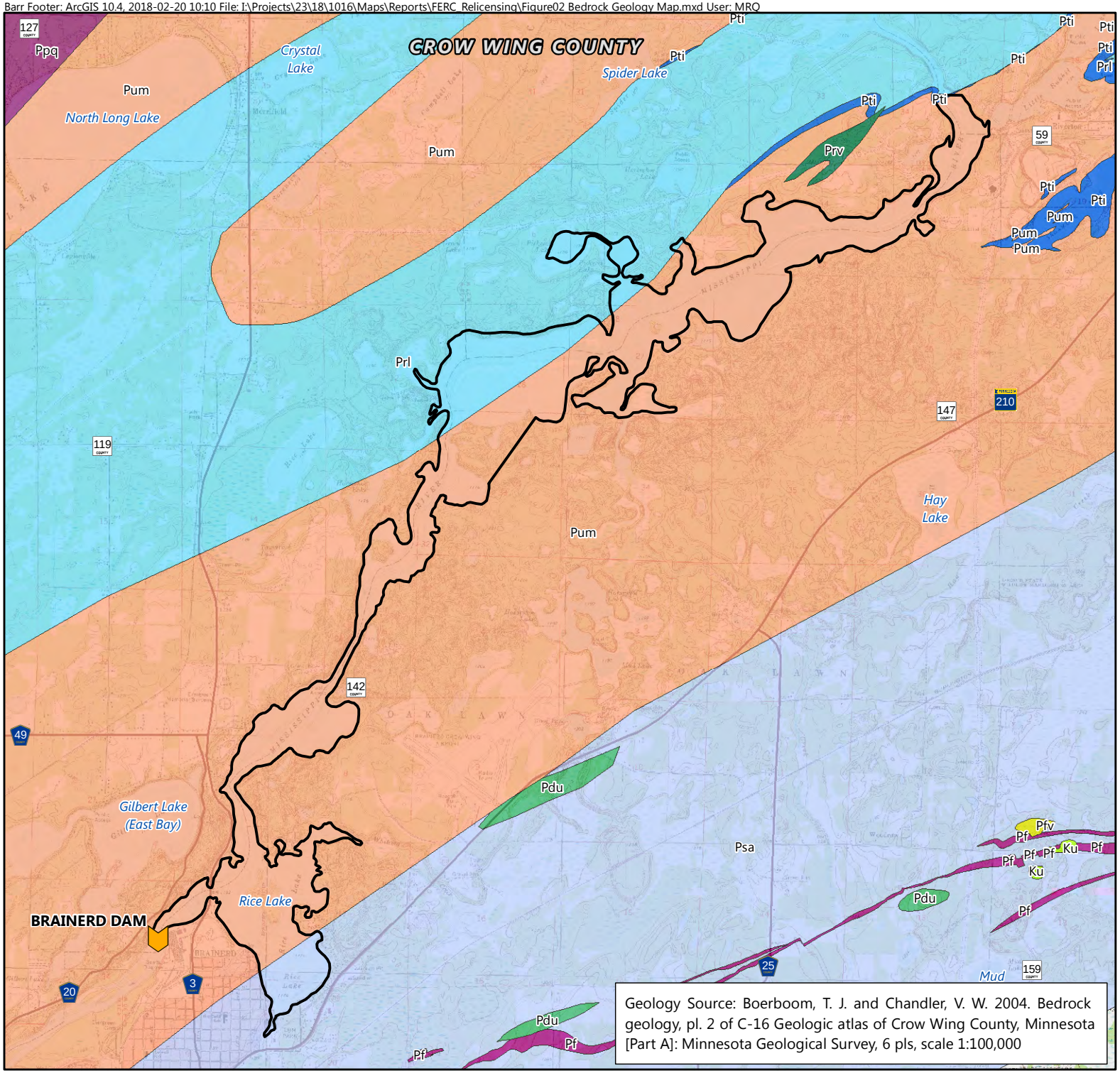
0 5,000 10,000

Feet

BARR

Figure B-1

PROJECT LOCATION
Brainerd Dam
Brainerd Public Utilities



Geology Source: Boerboom, T. J. and Chandler, V. W. 2004. Bedrock geology, pl. 2 of C-16 Geologic atlas of Crow Wing County, Minnesota [Part A]: Minnesota Geological Survey, 6 pls, scale 1:100,000

- Dam Location
- Project Boundary
- Major Highway

Geologic Unit

Mesozoic Rocks
- Ku - Cretaceous rocks, undivided

Paleoproterozoic Rocks - Animikie Group
- Ppq - Pokegama Quartzite

North Range Group
- Prl - Rabbit Lake Formation: slate, siltstone, and very fine-grained graywacke
- Pti - Trommald Formation
- Prv - Rabbit Lake Formation: interlayered mafic volcanic and volcaniclastic rocks and hypabyssal intrusions
- Pum - Mahnomen Formation: Upper Member

Miscellaneous Rock Units
- Psa - Metasedimentary rocks
- Pf - Iron-formation
- Pfv - Felsic volcanic rocks
- Pdu - Metadiabase

N

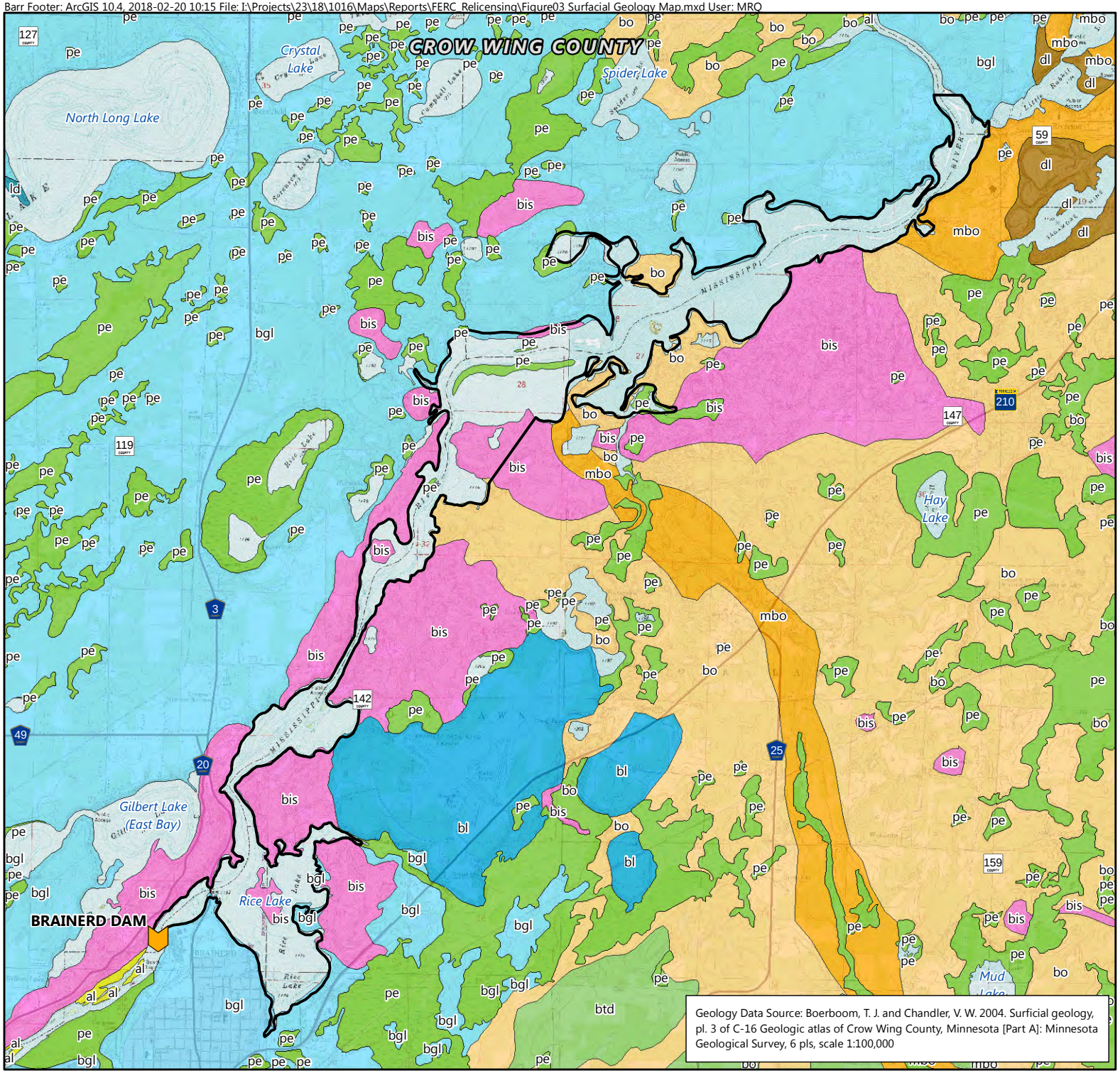
0 5,000 10,000

Feet

BARR

Figure B-2

BEDROCK GEOLOGY
Brainerd Dam
Brainerd Public Utilities



Dam Location

Project Boundary

Major Highway

Geologic Unit

Holocene and Late Pleistocene

- al - Floodplain alluvium
- dl - Land disturbed by iron-ore mining
- ld - Lacustrine sediments
- pe - Peat and other organic sediments

Pleistocene

Mille Lacs Deposits of the Cromwell Formation

- mbo - Mixed outwash

Brainerd Assemblage

- bgl - Glacial Lake Brainerd deposits
- bis - Ice-contact stratified materials
- bl - Lake sand and silt
- bo - Outwash
- btd - South Long Lake till deposits

N

0 5,000 10,000

Feet

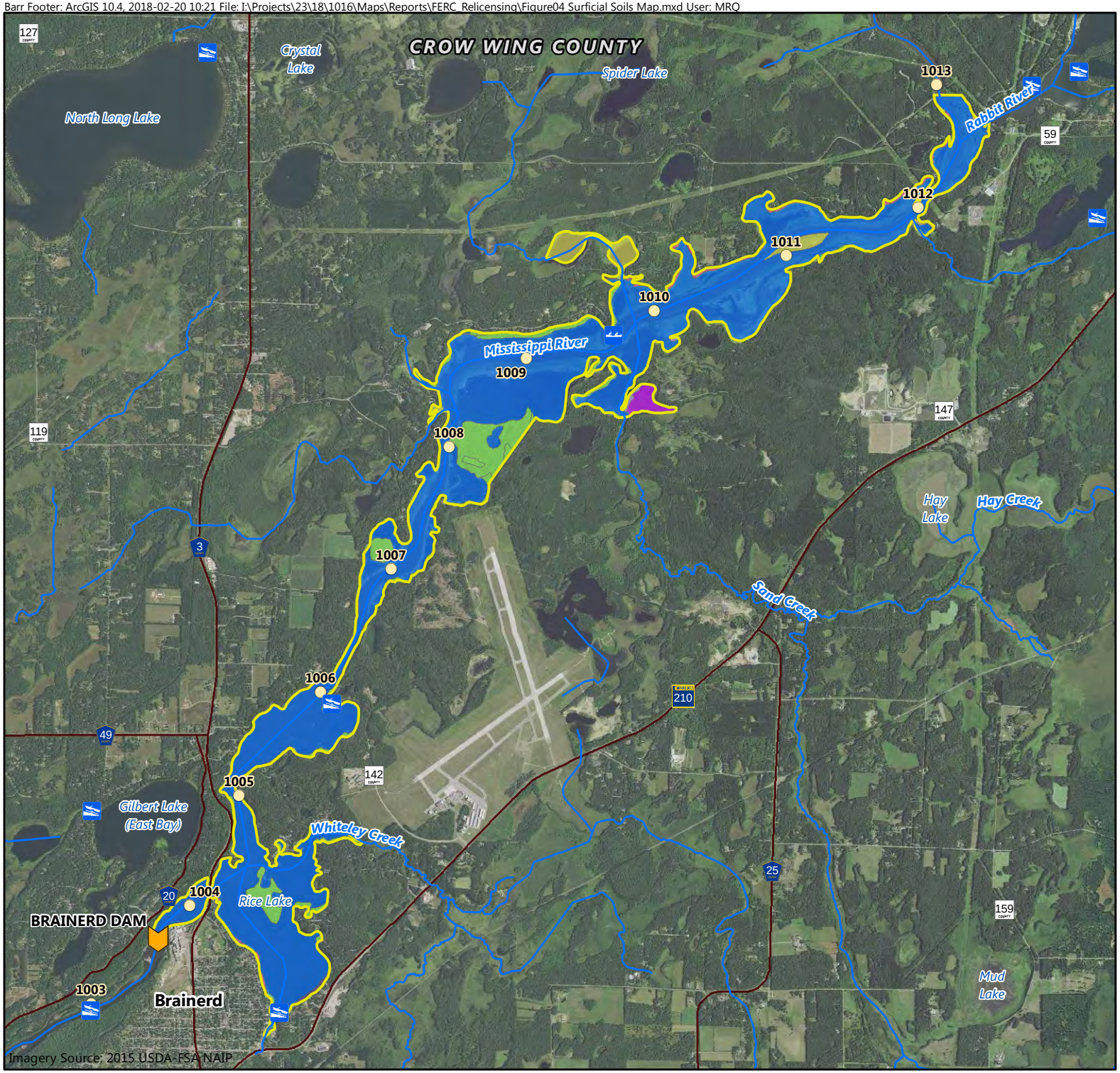
Geology Data Source: Boerboom, T. J. and Chandler, V. W. 2004. Surficial geology, pl. 3 of C-16 Geologic atlas of Crow Wing County, Minnesota [Part A]: Minnesota Geological Survey, 6 pls, scale 1:100,000

BARR

Figure B-3

SURFICIAL GEOLOGY
Brainerd Dam
Brainerd Public Utilities

Barr Footer: ArcGIS 10.4, 2018-02-20 10:21 File: I:\Projects\23\18\1016\Maps\Reports\FERC_Relicensing\Figure04 Surficial Soils Map.mxd User: MRQ



River Mile Marker

Dam Location

Project Boundary

Major Highway

Map Unit Name

- Emmert-Gerrish complex
- Eutrudepts-Graycalm-Rollins complex
- Gerrish-Mahtomedi complex
- Graycalm loamy sand
- Graycalm-Grayling complex
- Graycalm-Grayling-Meehan complex
- Lougee-Barber-Guida complex
- Lougee-Totagatic-Bowstring complex
- Rifle and Seelyeville soils
- Rosholt-Chetek complex
- Uskabwanka-Rifle-Lougee complex
- Water
- Wurtsmith-Meehan complex
- Wurtsmith-Meehan-Beach complex
- Zimmerman loamy fine sand
- Zimmerman-Urban land complex

N

0 5,000 10,000

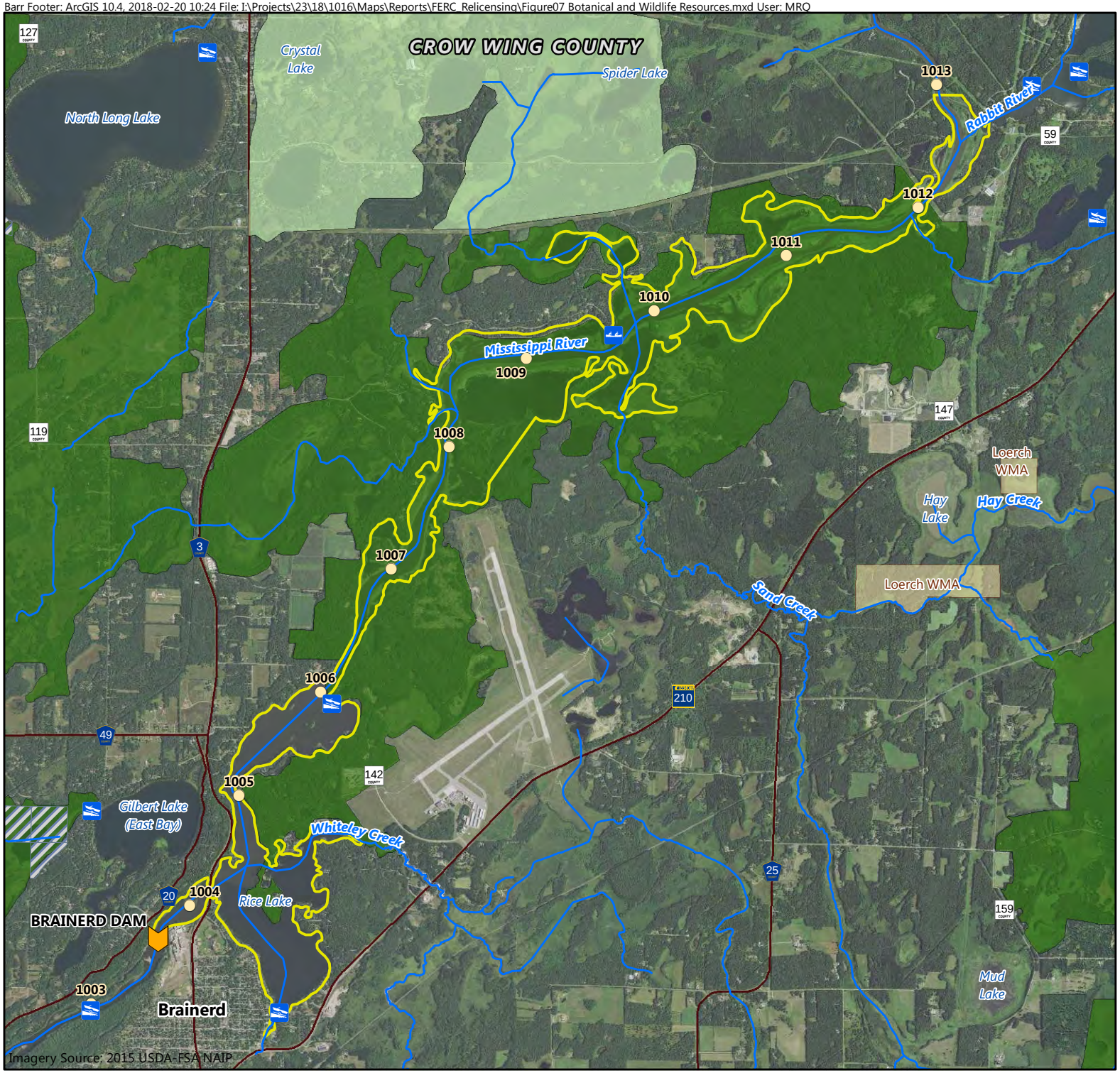
Feet

BARR

Figure B-4

SURFICIAL SOILS
Brainerd Dam
Brainerd Public Utilities

Barr Footer: ArcGIS 10.4, 2018-02-20 10:24 File: I:\Projects\23\18\1016\Maps\Reports\FERC_Relicensing\Figure07 Botanical and Wildlife Resources.mxd User: MRQ



- River Mile Marker
- Dam Location
- Project Boundary
- Major Highway
- State Wildlife Management Area
- DNR Fisheries Lands

MBS Sites of Biodiversity Significance

- Outstanding
- High
- Moderate
- Below

N

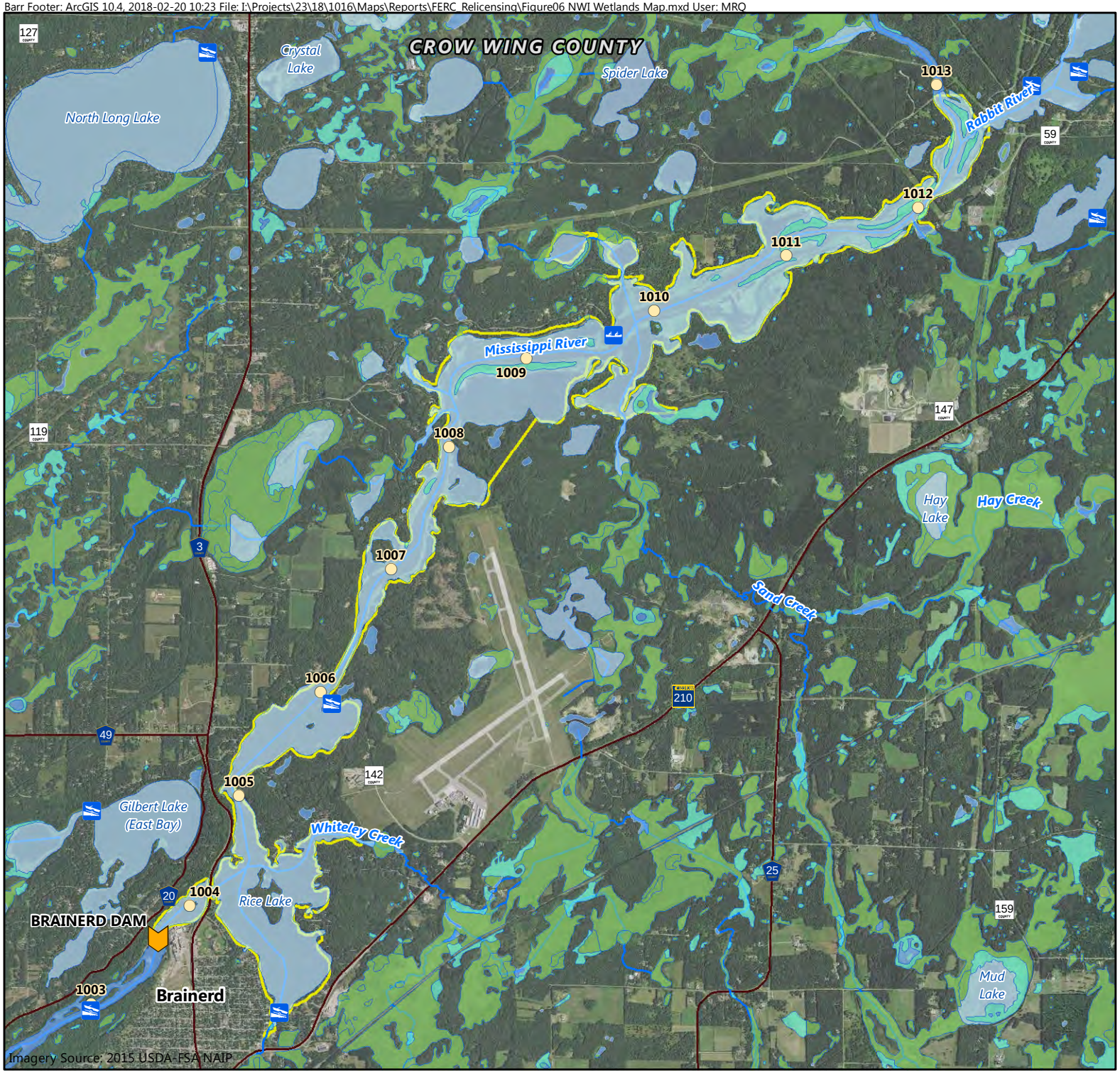
0 5,000 10,000

Feet

BARR

Figure B-5

BOTANICAL AND WILDLIFE RESOURCES
Brainerd Dam
Brainerd Public Utilities



River Mile Marker

Dam Location

Project Boundary

Major Highway

Wetlands (National Wetlands Inventory)

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

N

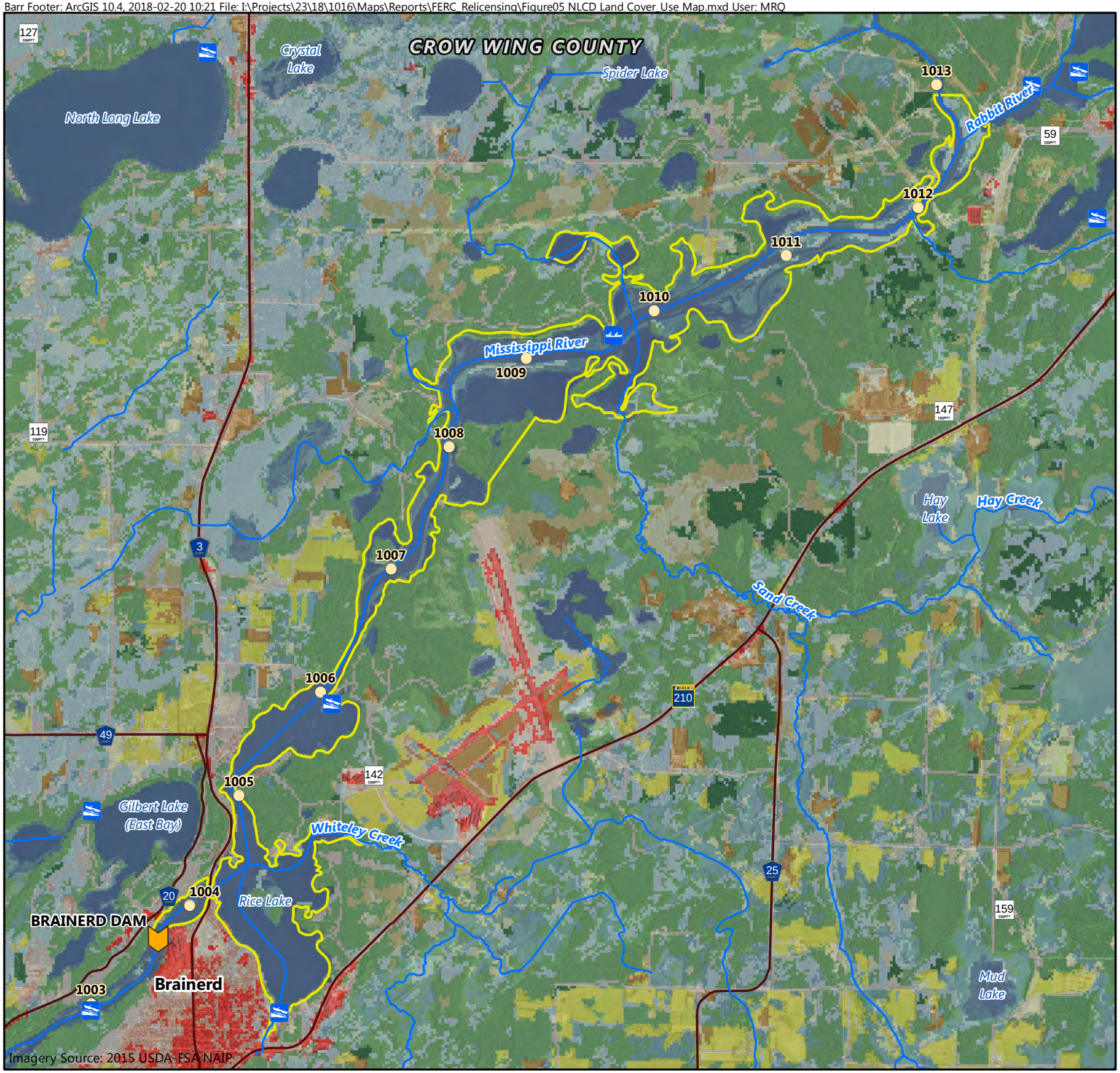
0 5,000 10,000

Feet

BARR

Figure B-6

WETLANDS
Brainerd Dam
Brainerd Public Utilities



River Mile Marker
Dam Location
Project Boundary
Major Highway

National Land Cover Dataset 2011

- Open Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Barren Land
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Shrub/Scrub
- Grassland/Herbaceous
- Pasture/Hay
- Cultivated Crops
- Woody Wetlands
- Emergent Herbaceous Wetlands

N

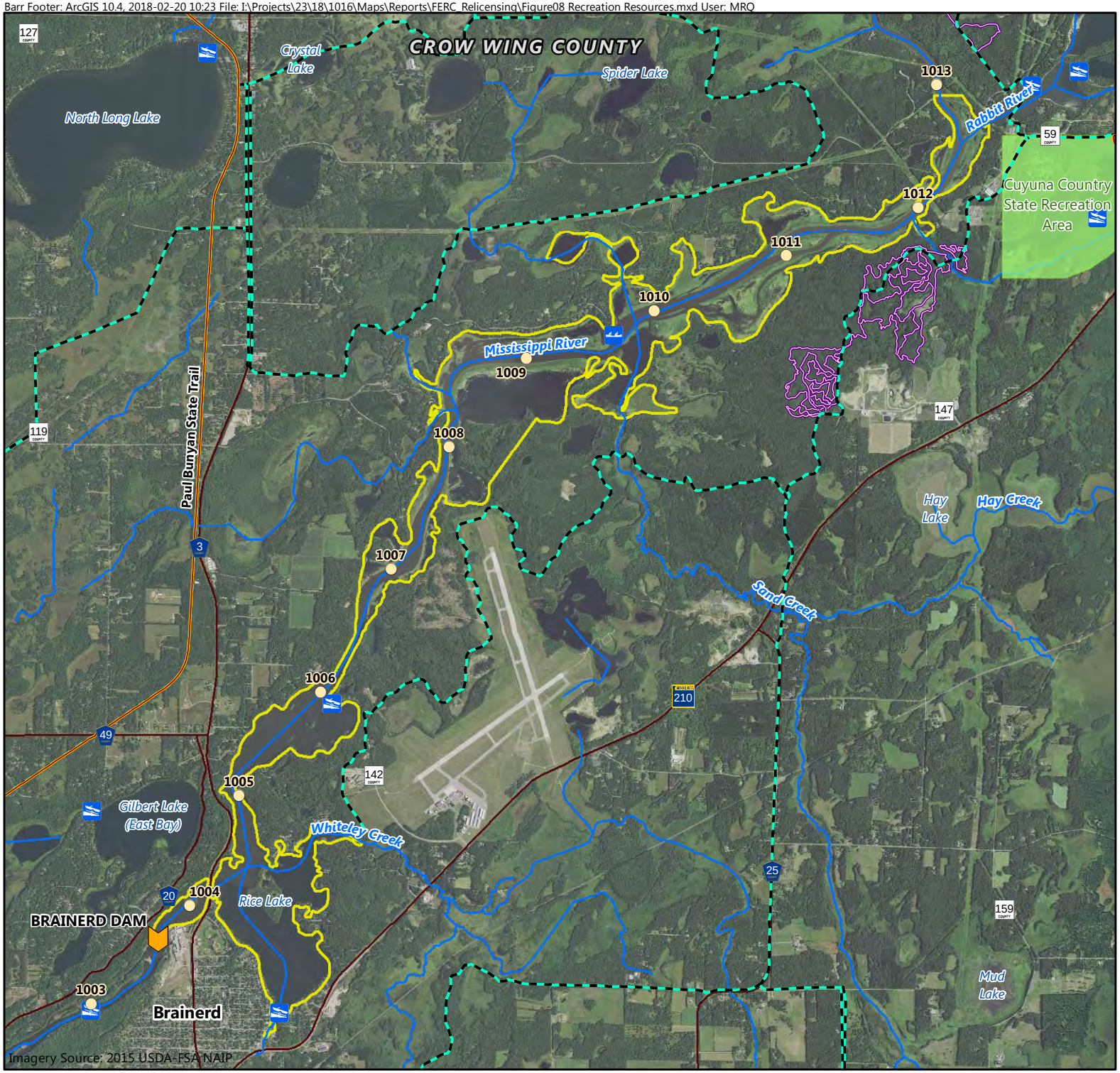
0 5,000 10,000

Feet

BARR

Figure B-7

LAND COVER
Brainerd Dam
Brainerd Public Utilities



- River Mile Marker
- Dam Location
- Project Boundary
- Major Highway
- Carry-in/Portage
- Trailer Launch
- State Trail
- Snowmobile Trail
- Off-Highway Vehicle Use Trail
- State Park

N

0 5,000 10,000

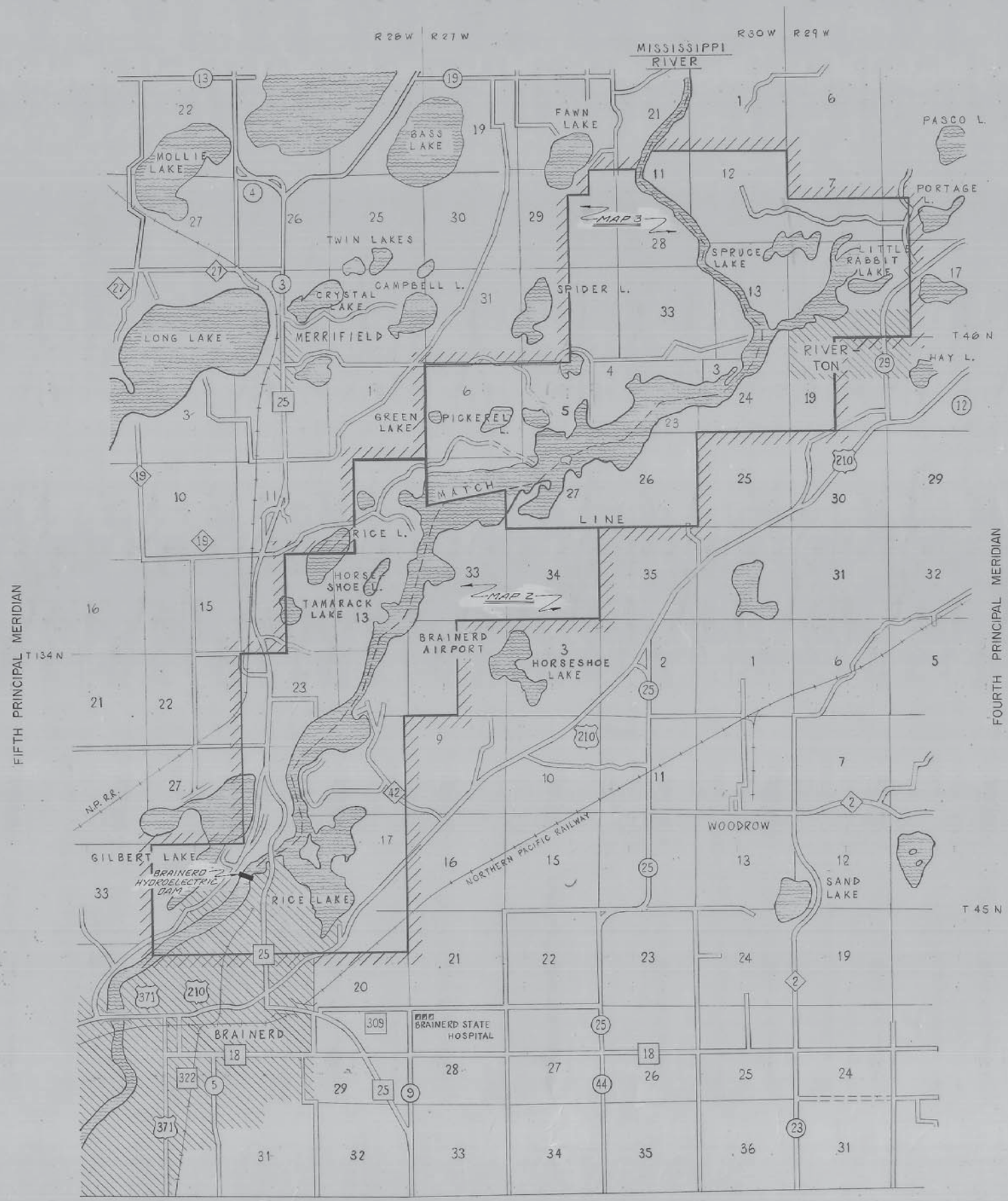
Feet

BARR

Figure B-8

RECREATION RESOURCES
Brainerd Dam
Brainerd Public Utilities

Appendix C: Exhibit G Drawings



COUNTY - CROW WING
STATE OF MINNESOTA

THIS MAP IS REPRODUCED IN PART FROM THE MINNESOTA DEPARTMENT OF HIGHWAYS 1965 CROW WING COUNTY MAP.

LEGEND:

CORPORATE LIMITS

LIMITS FOR MAPS 1 & 2

SCALE: 2" = 1 MILE

"THIS DRAWING IS A PART OF THE APPLICATION FOR LICENSE BY THE UNDERSIGNED

B.R. Potthoff 12/13/91
T.A. Sandstede 12/13/91

EXHIBIT G — MAP 1 of 3

POTLATCH CORPORATION — BRAINERD, MINNESOTA

BRAINERD HYDROELECTRIC PROJECT

F.E.R.C. PROJECT No. 2533

MISSISSIPPI RIVER

CROW WING COUNTY, MINNESOTA

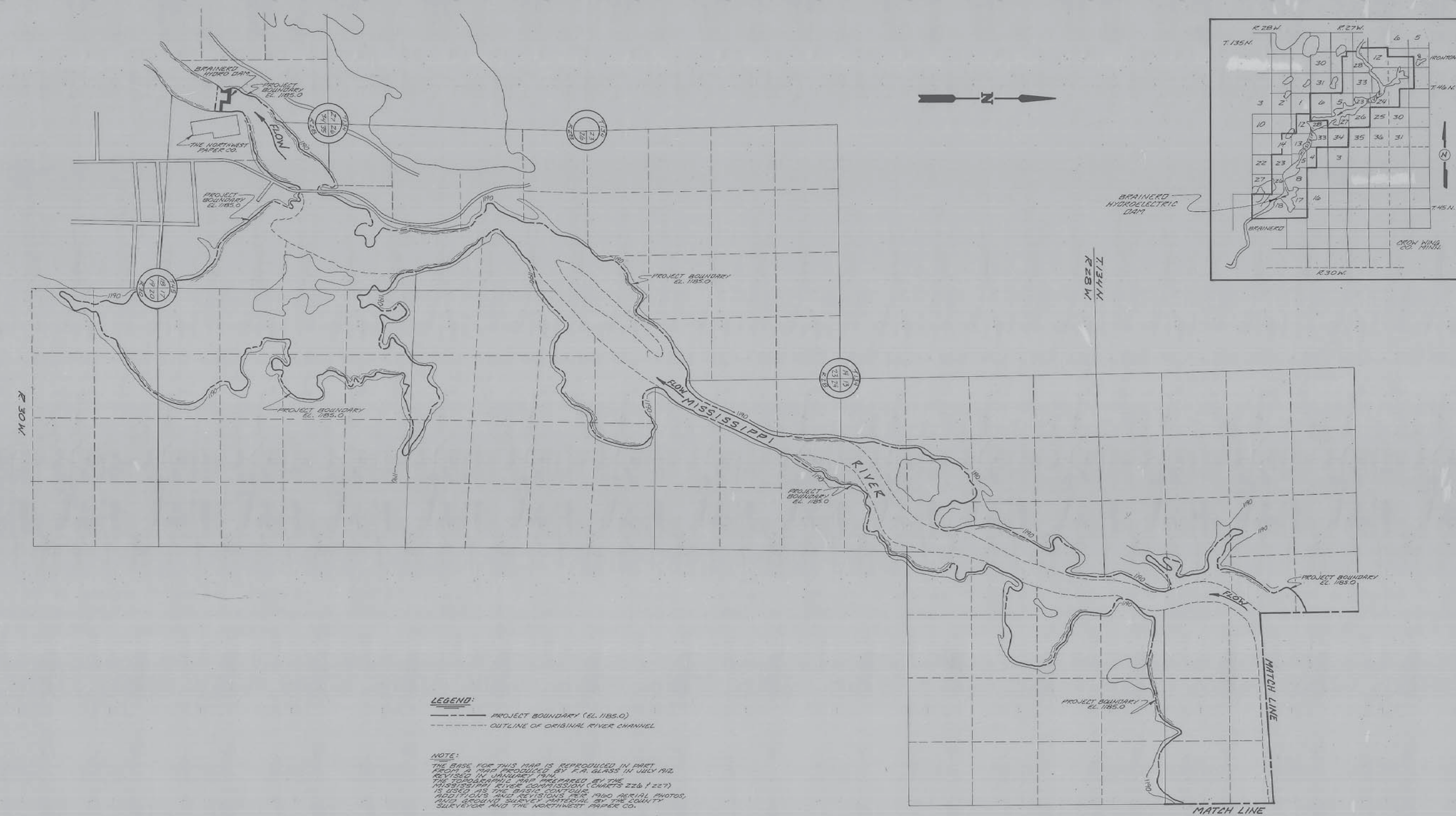
PROJECT BOUNDARY

SCALE: AS SHOWN
DATE: DECEMBER, 1991

MEAD & HUNT INC.
Consulting Engineers
Madison, Wisconsin

F2276

F.E.R.C. No. 2533-10



LEGEND:

PROJECT BOUNDARY (EL. 1185.0)
OUTLINE OF ORIGINAL RIVER CHANNEL

NOTE:

THE BASE FOR THIS MAP IS REPRODUCED IN PART FROM A MAP PRODUCED BY F.A. GLASS IN JULY 1912, REVISED IN JANUARY 1914.
THE TOPOGRAPHIC MAP PREPARED BY THE MISSISSIPPI RIVER COMMISSION (CHARTS 226 & 227) IS USED AS THE BASIC CONTOUR.
ADDITIONS AND REVISIONS PER 1960 AERIAL PHOTOS, AND GROUND SURVEY MATERIAL BY THE COUNTY SURVEYOR AND THE NORTHWEST PAPER CO.

SCALE: 6.4" = 1 MILE

FEET: 1000' 500' 0 1000' 2000'

MILES: 0 1/8 1/4 1/2 3/4 1

"THIS DRAWING IS A PART OF THE APPLICATION FOR LICENSE BY THE UNDERSIGNED

C.R. Pettingen 12/13/91
T.A. Sanfilippo 12/13/91

EXHIBIT G — MAP 2 of 3

POTLATCH CORPORATION — BRAINERD, MINNESOTA

BRAINERD HYDROELECTRIC PROJECT

F.E.R.C. PROJECT No. 2533

MISSISSIPPI RIVER
CROW WING COUNTY, MINNESOTA

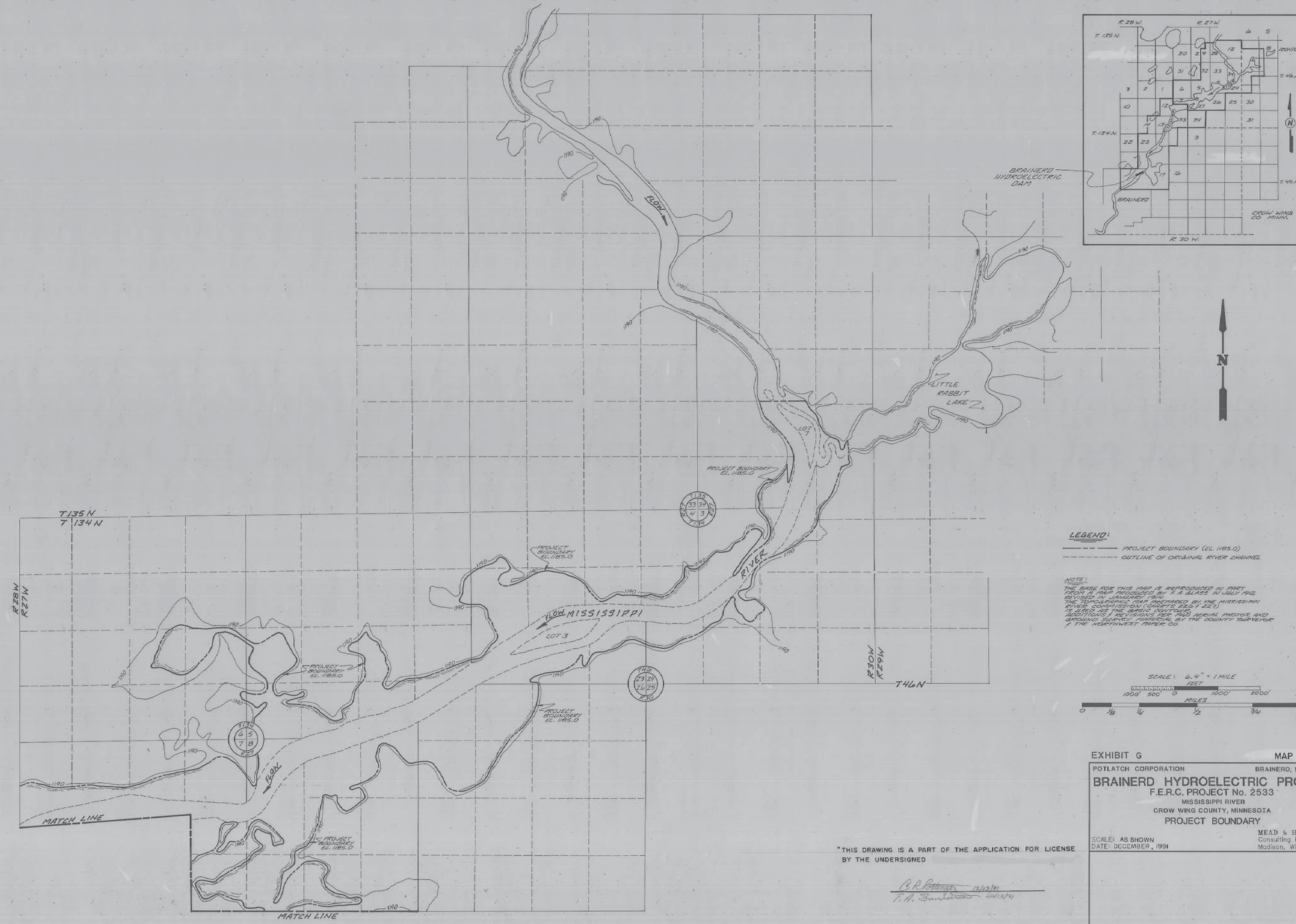
PROJECT BOUNDARY

SCALE: AS SHOWN
DATE: DECEMBER, 1991

MEAD & HUNT INC.
Consulting Engineers
Madison, Wisconsin

F227C

F.E.R.C. No. 2533-11


FLOW
MISSISSIPPI
RIVER
LITTLE RABBIT LAKE
LOT 3
PROJECT BOUNDARY EL. 1185.0
T135N
T 134N
R28W
R27W
R30W
R29W
T46N
MATCH LINE
BRAINERD HYDROELECTRIC DAM
BRAINERD
CROW WING CO. MINN.
N
LEGEND:
PROJECT BOUNDARY (EL. 1185.0)
OUTLINE OF ORIGINAL RIVER CHANNEL
NOTE:
THE BASE FOR THIS MAP IS REPRODUCED IN PART FROM A MAP PRODUCED BY F. A. GLASS IN JULY 1912 REVISED IN JANUARY 1914.
THE TOPOGRAPHIC MAP PREPARED BY THE MISSISSIPPI RIVER COMMISSION (CHARTS 226 & 227) IS USED AS THE BASIC CONTOUR.
ADDITIONS & REVISIONS PER 1960 AERIAL PHOTOS, AND GROUND SURVEY MATERIAL BY THE COUNTY SURVEYOR & THE NORTHWEST PAPER CO.
SCALE: 6.4" = 1 MILE
FEET
1000' 500' 0 1000' 2000'
MILES
0 1/8 1/4 1/2 3/4 1

*THIS DRAWING IS A PART OF THE APPLICATION FOR LICENSE BY THE UNDERSIGNED

EXHIBIT G

MAP 3 of 3

POTLATCH CORPORATION

BRAINERD, MINNESOTA

BRAINERD HYDROELECTRIC PROJECT

F.E.R.C. PROJECT No. 2533

MISSISSIPPI RIVER

CROW WING COUNTY, MINNESOTA

PROJECT BOUNDARY

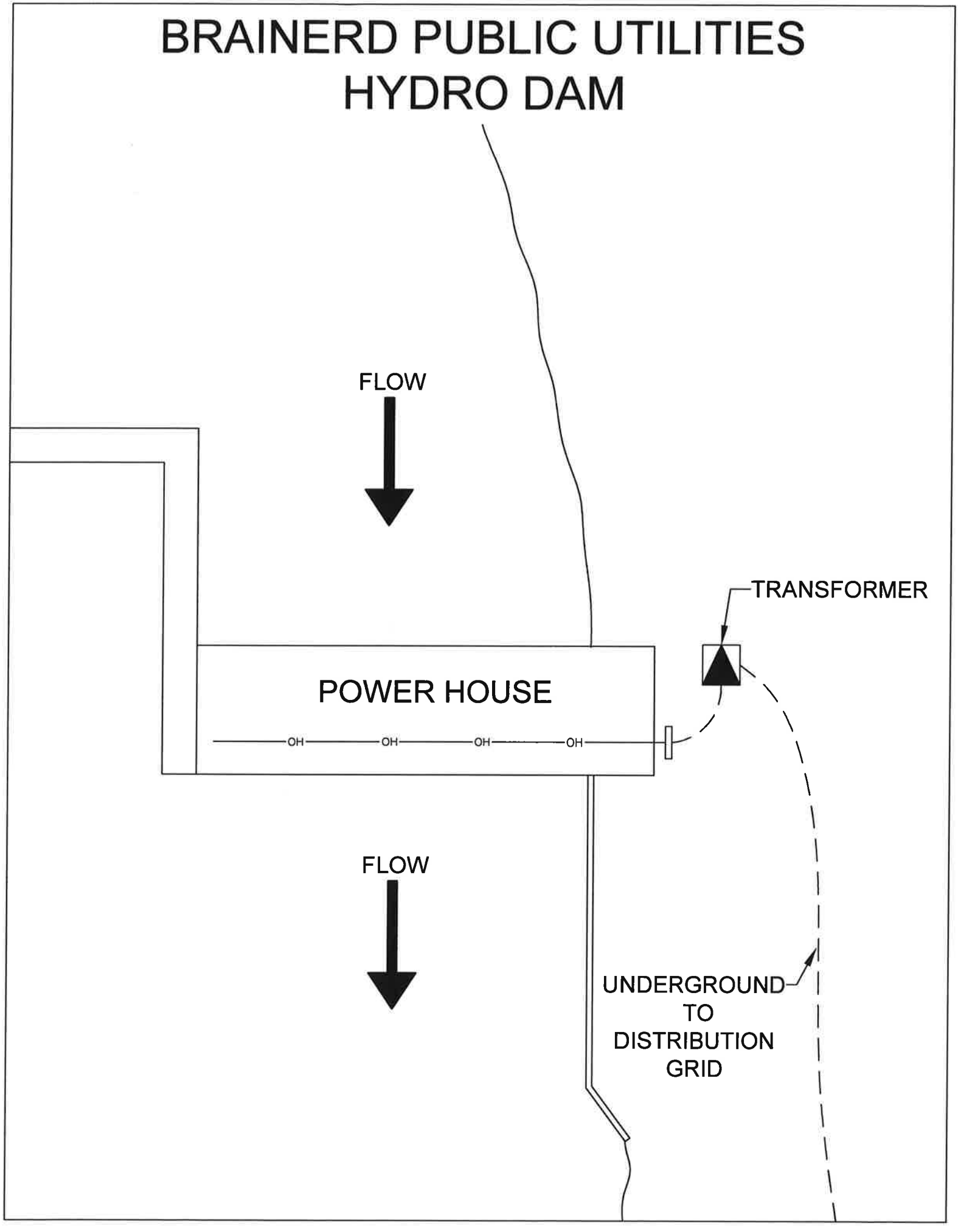
SCALE: AS SHOWN
DATE: DECEMBER, 1991

MEAD & HUNT INC.
Consulting Engineers
Madison, Wisconsin

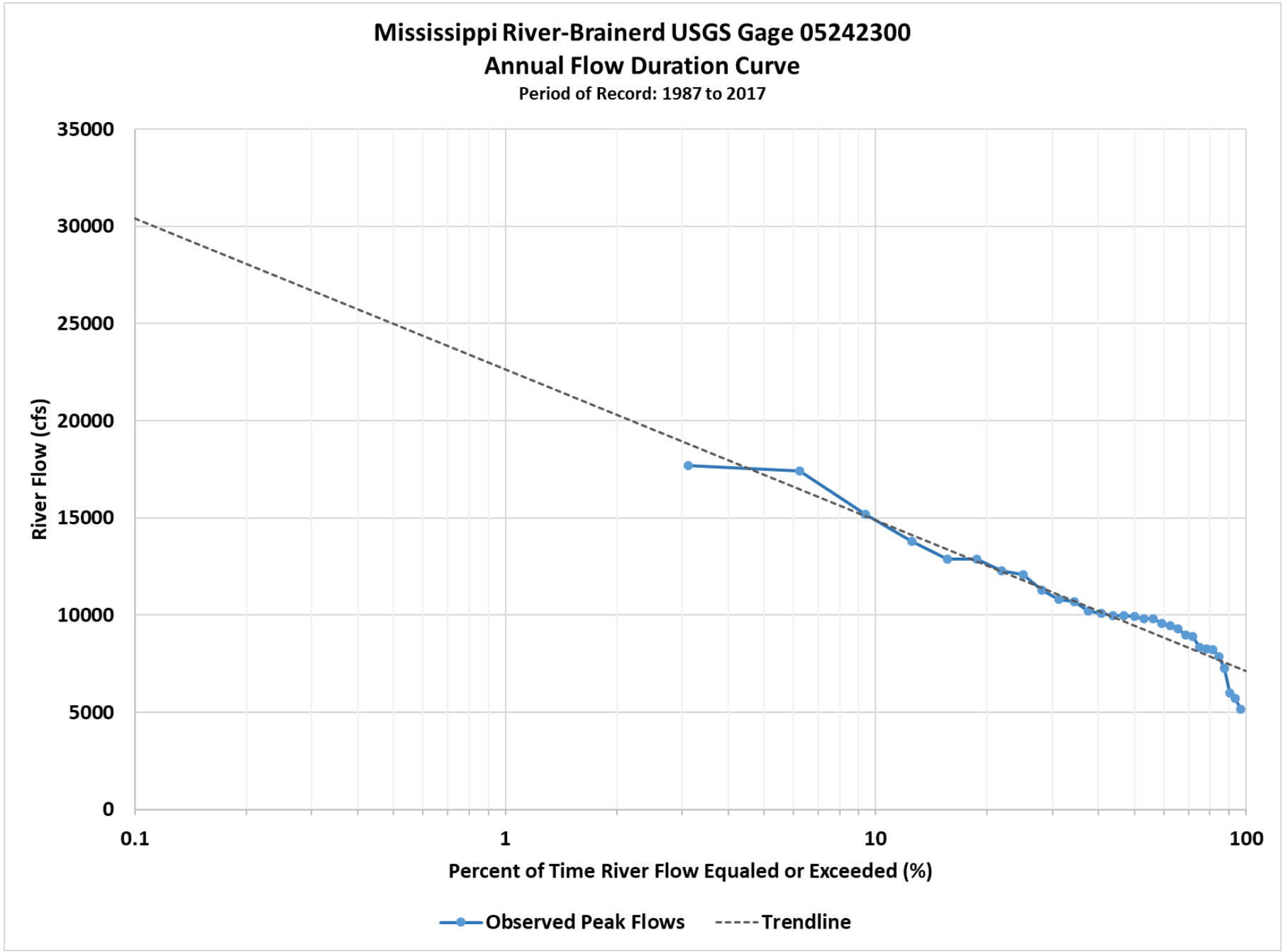
F2276

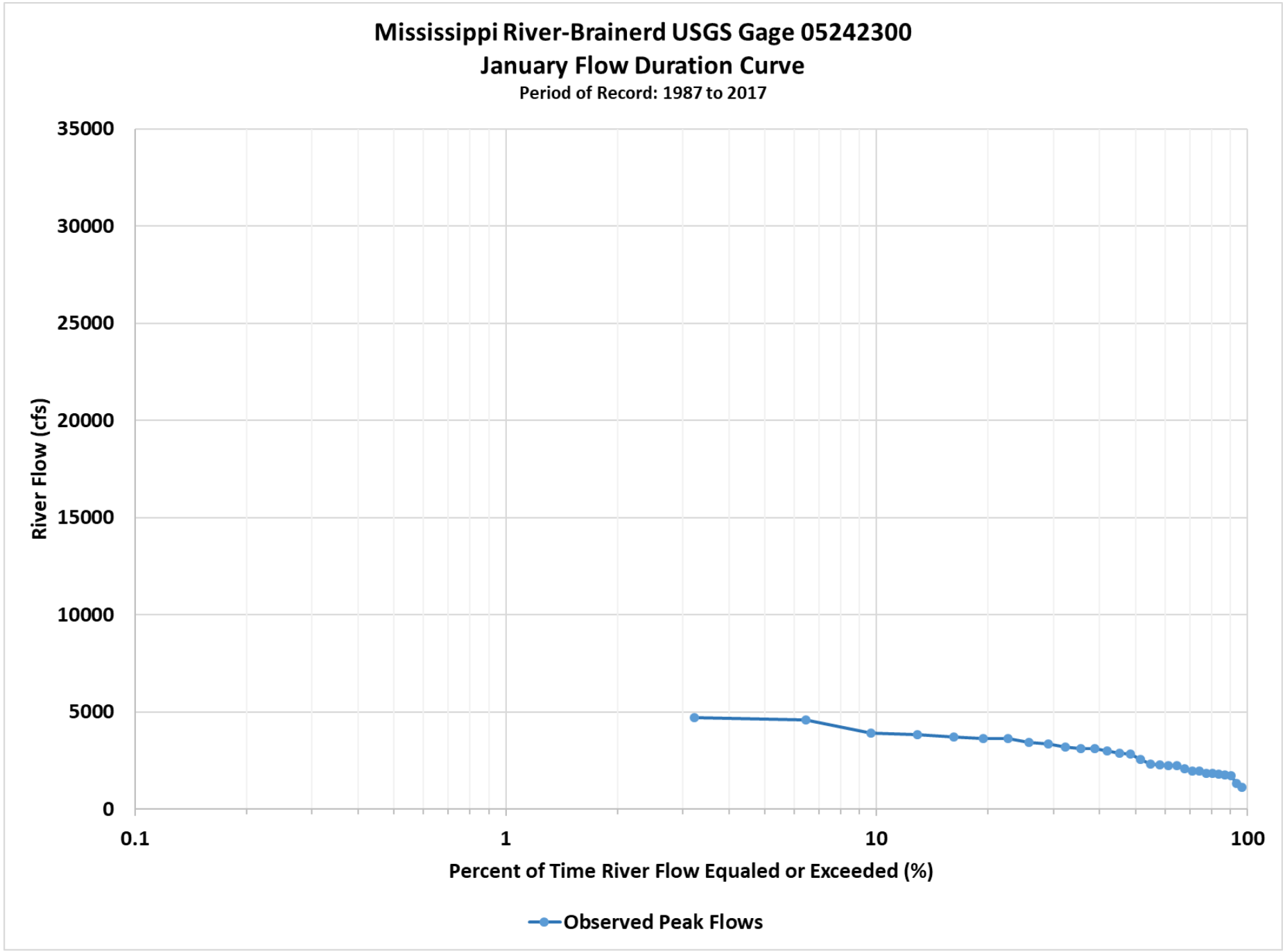
F.E.R.C. No. 2533-12

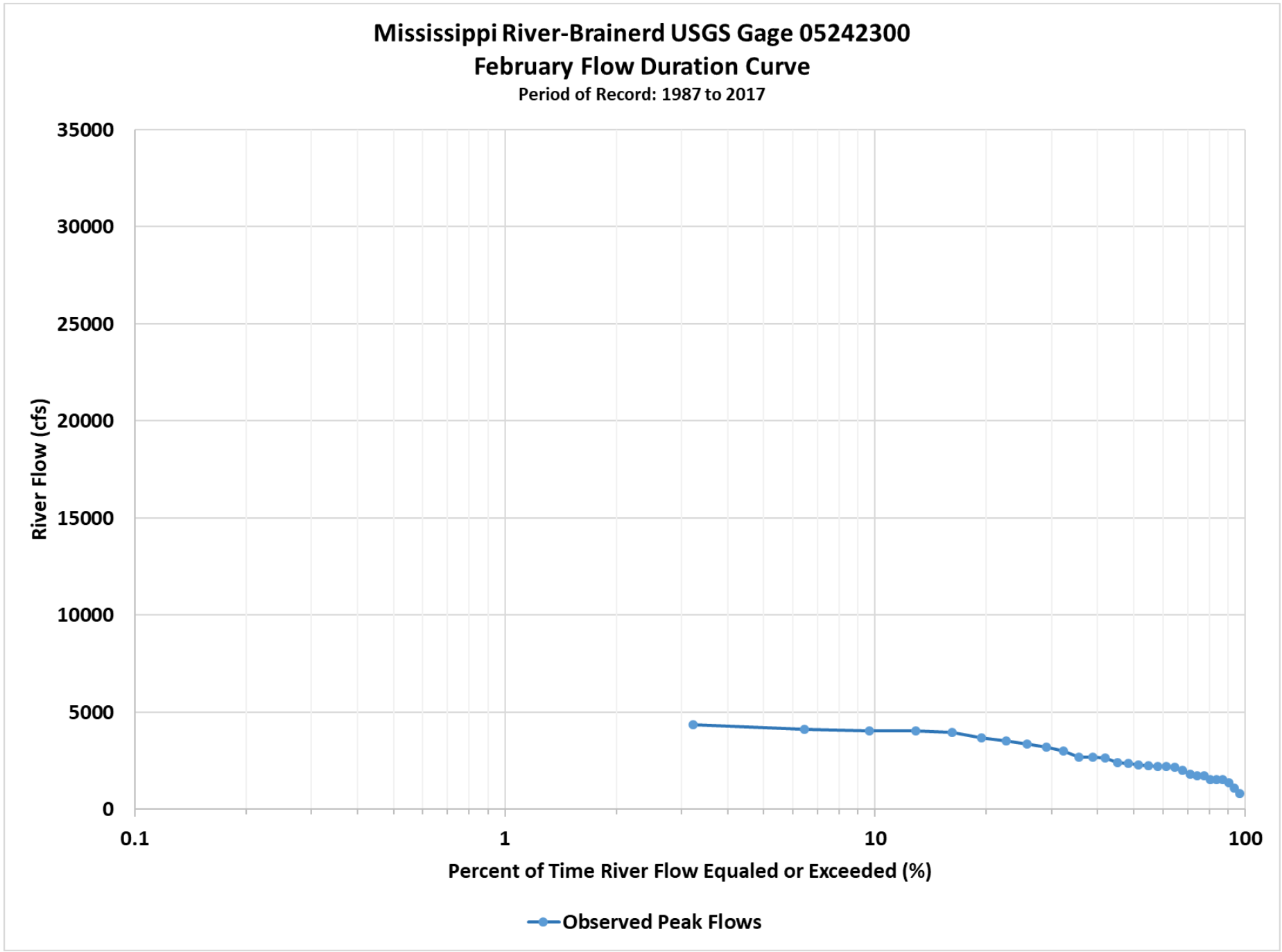
Appendix D: Single Line Diagram

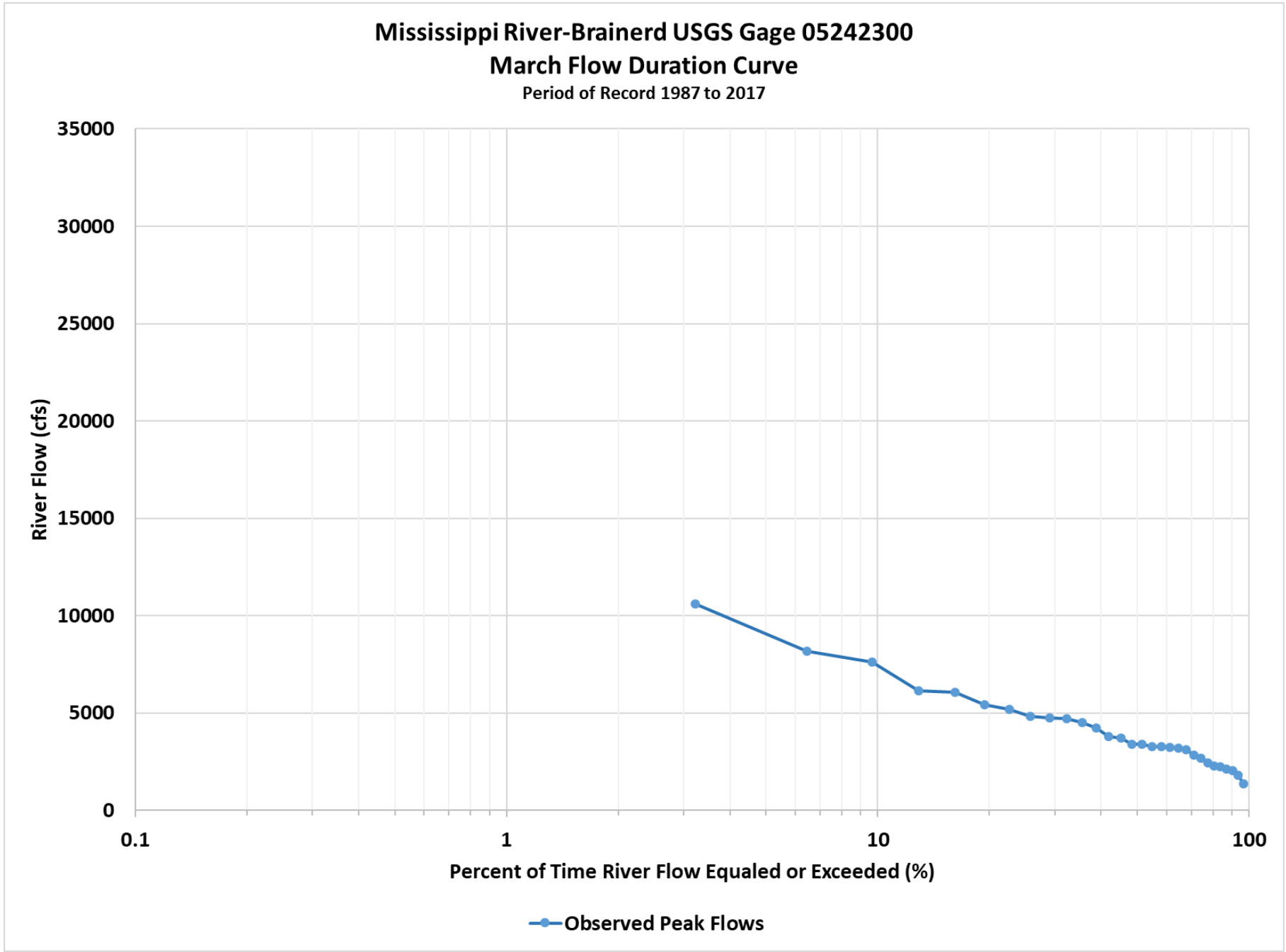

BRAINERD PUBLIC UTILITIES
HYDRO DAM
FLOW
TRANSFORMER
POWER HOUSE
OH
OH
OH
OH
FLOW
UNDERGROUND
TO
DISTRIBUTION
GRID

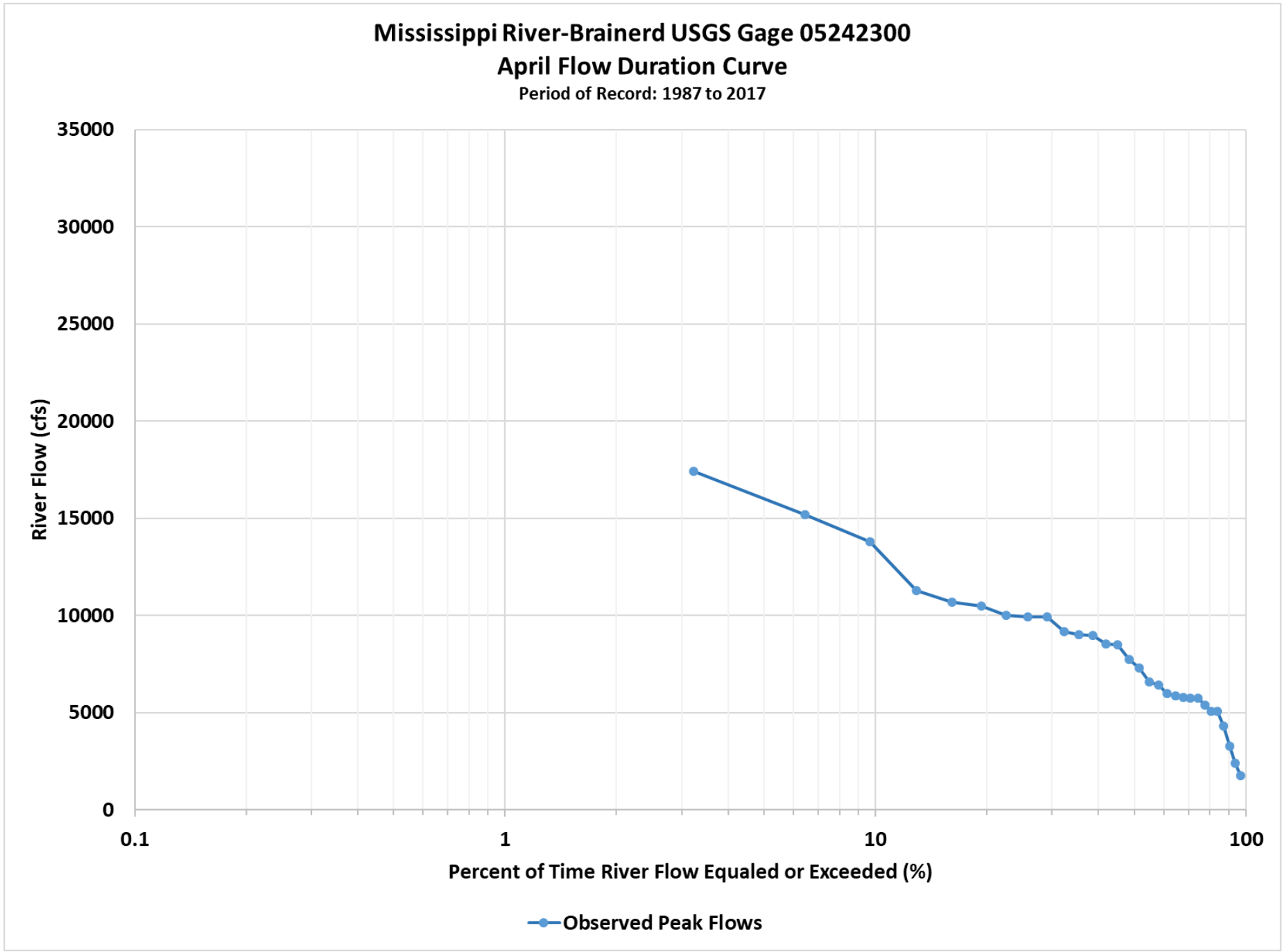
Appendix E: Water Resources Data

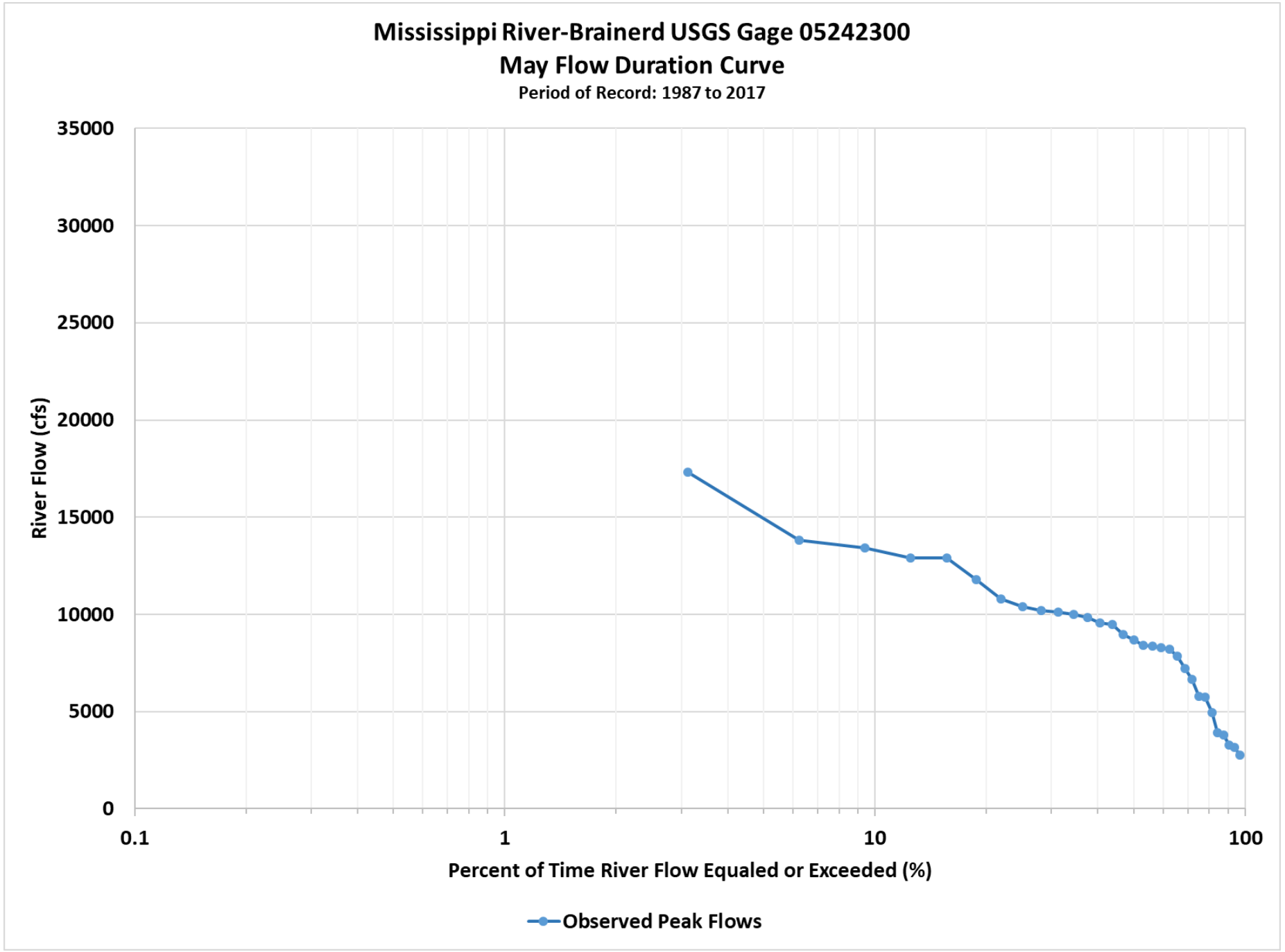

Mississippi River-Brainerd USGS Gage 05242300
Annual Flow Duration Curve
Period of Record: 1987 to 2017
35000
30000
25000
20000
15000
10000
5000
0
River Flow (cfs)
0.1
1
10
100
Percent of Time River Flow Equaled or Exceeded (%)
Observed Peak Flows
Trendline

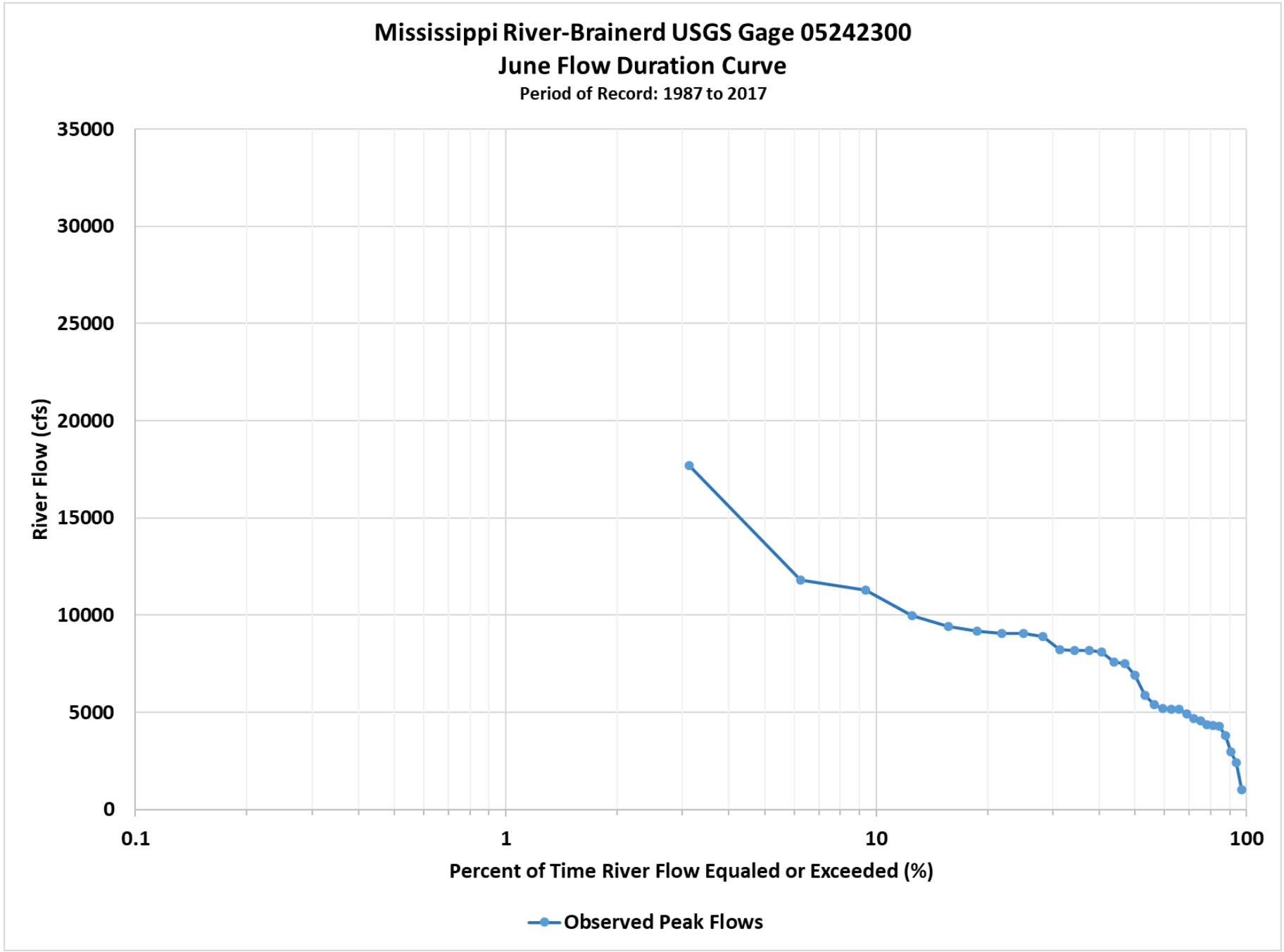

Mississippi River-Brainerd USGS Gage 05242300
January Flow Duration Curve
Period of Record: 1987 to 2017
River Flow (cfs)
35000
30000
25000
20000
15000
10000
5000
0
0.1
1
10
100
Percent of Time River Flow Equaled or Exceeded (%)
Observed Peak Flows

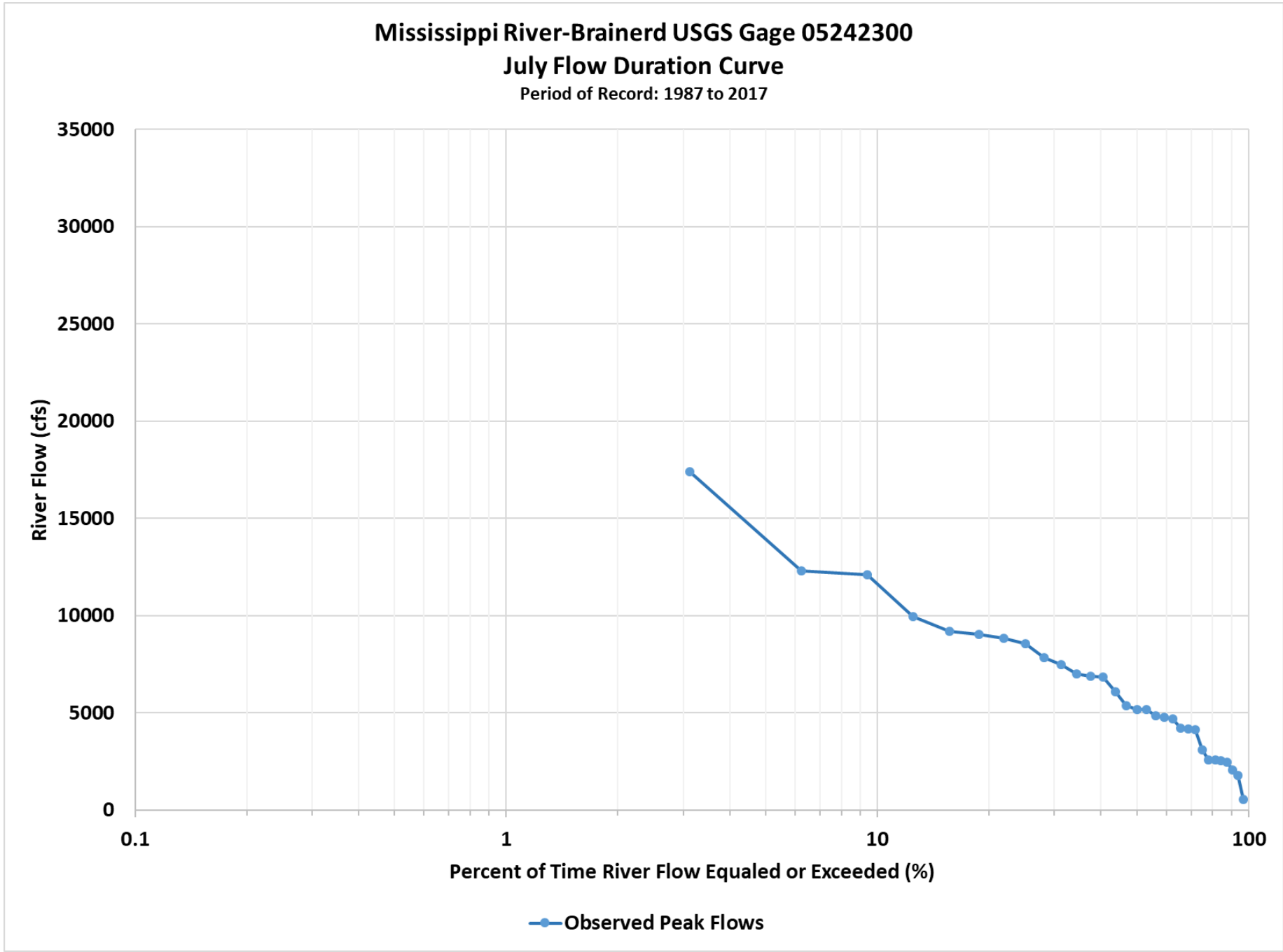

Mississippi River-Brainerd USGS Gage 05242300
February Flow Duration Curve
Period of Record: 1987 to 2017
River Flow (cfs)
35000
30000
25000
20000
15000
10000
5000
0
0.1
1
10
100
Percent of Time River Flow Equaled or Exceeded (%)
Observed Peak Flows

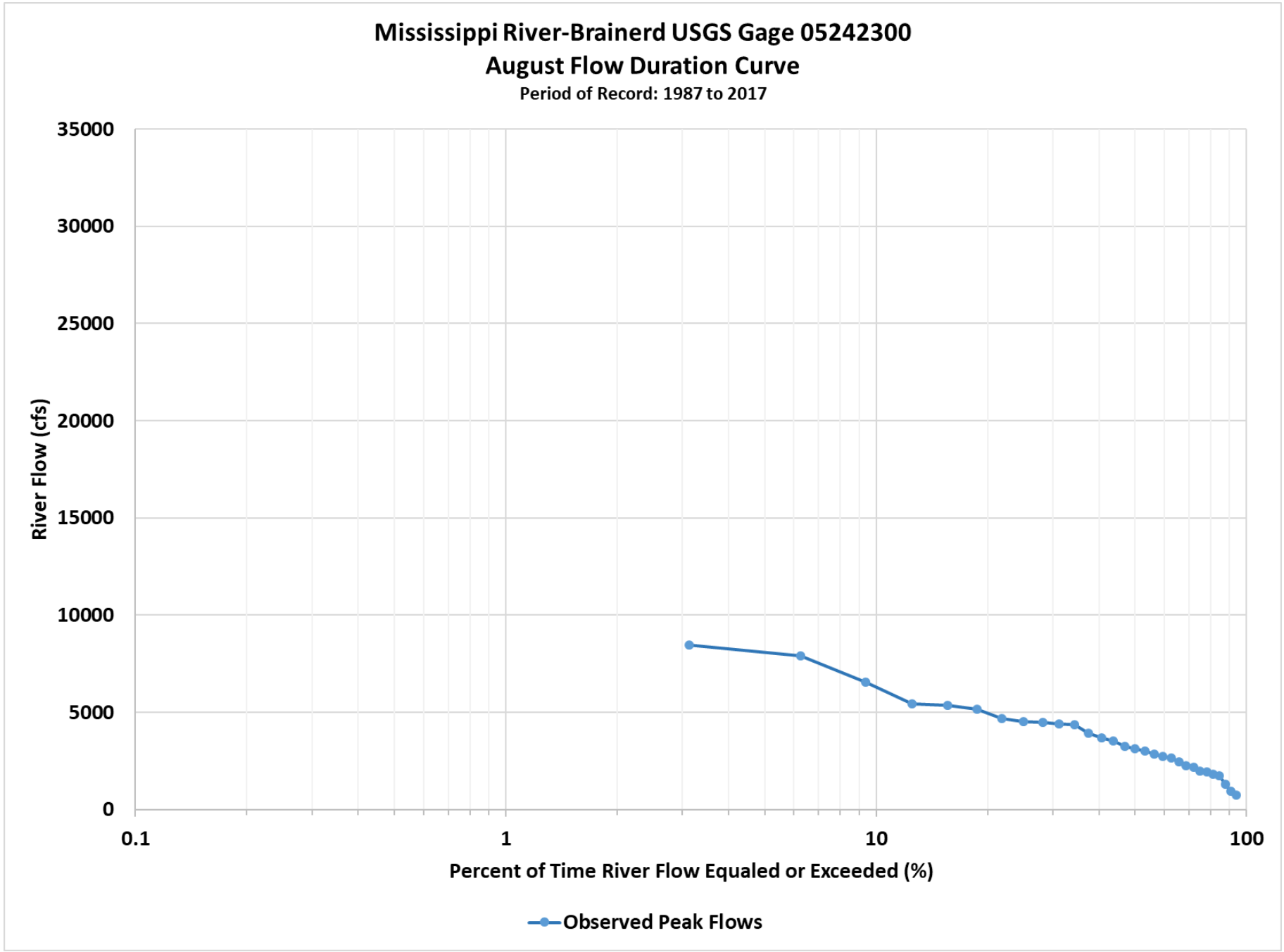

Mississippi River-Brainerd USGS Gage 05242300
March Flow Duration Curve
Period of Record 1987 to 2017
River Flow (cfs)
35000
30000
25000
20000
15000
10000
5000
0
0.1
1
10
100
Percent of Time River Flow Equaled or Exceeded (%)
Observed Peak Flows

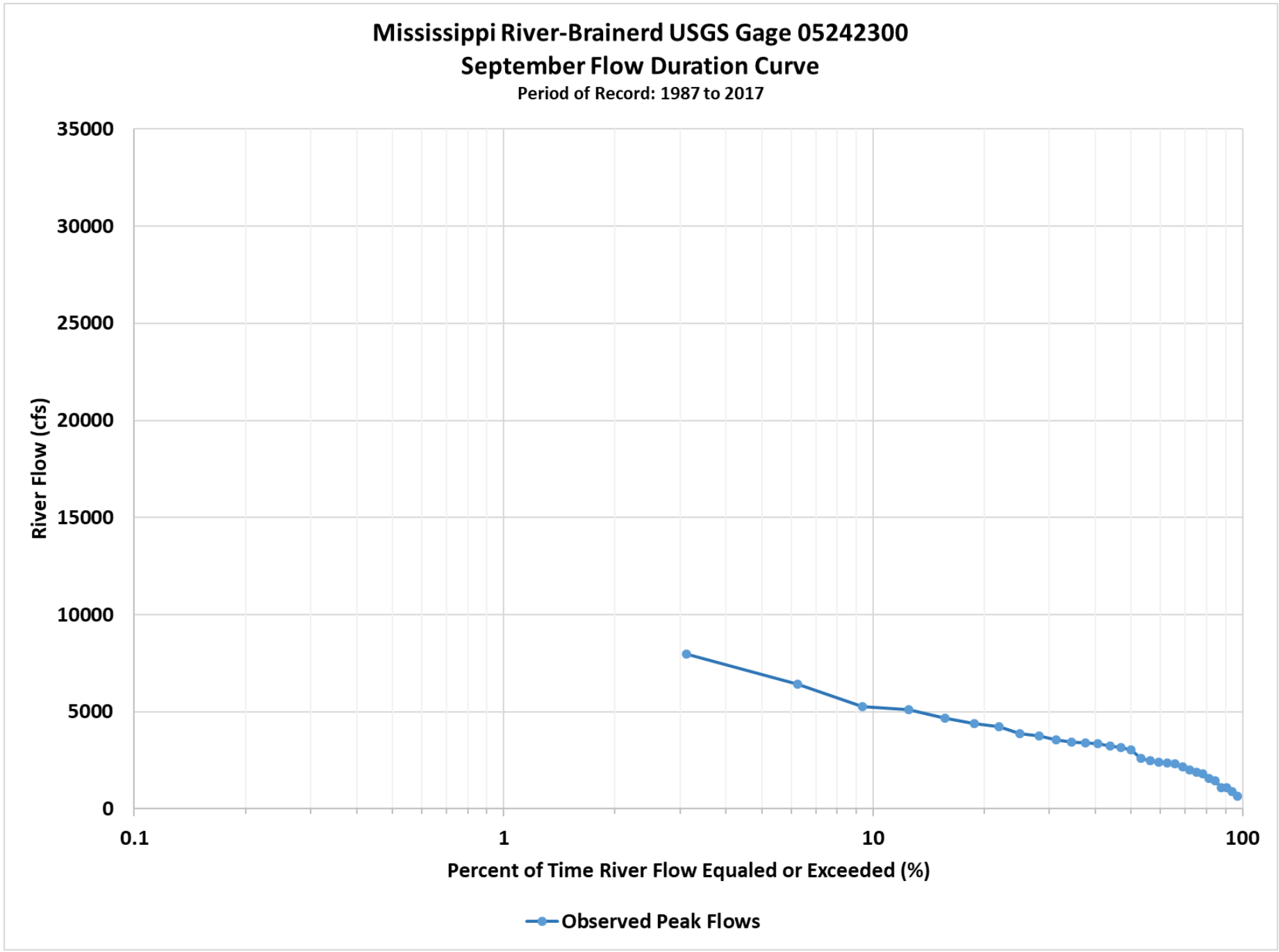

Mississippi River-Brainerd USGS Gage 05242300
April Flow Duration Curve
Period of Record: 1987 to 2017
River Flow (cfs)
35000
30000
25000
20000
15000
10000
5000
0
0.1
1
10
100
Percent of Time River Flow Equaled or Exceeded (%)
Observed Peak Flows

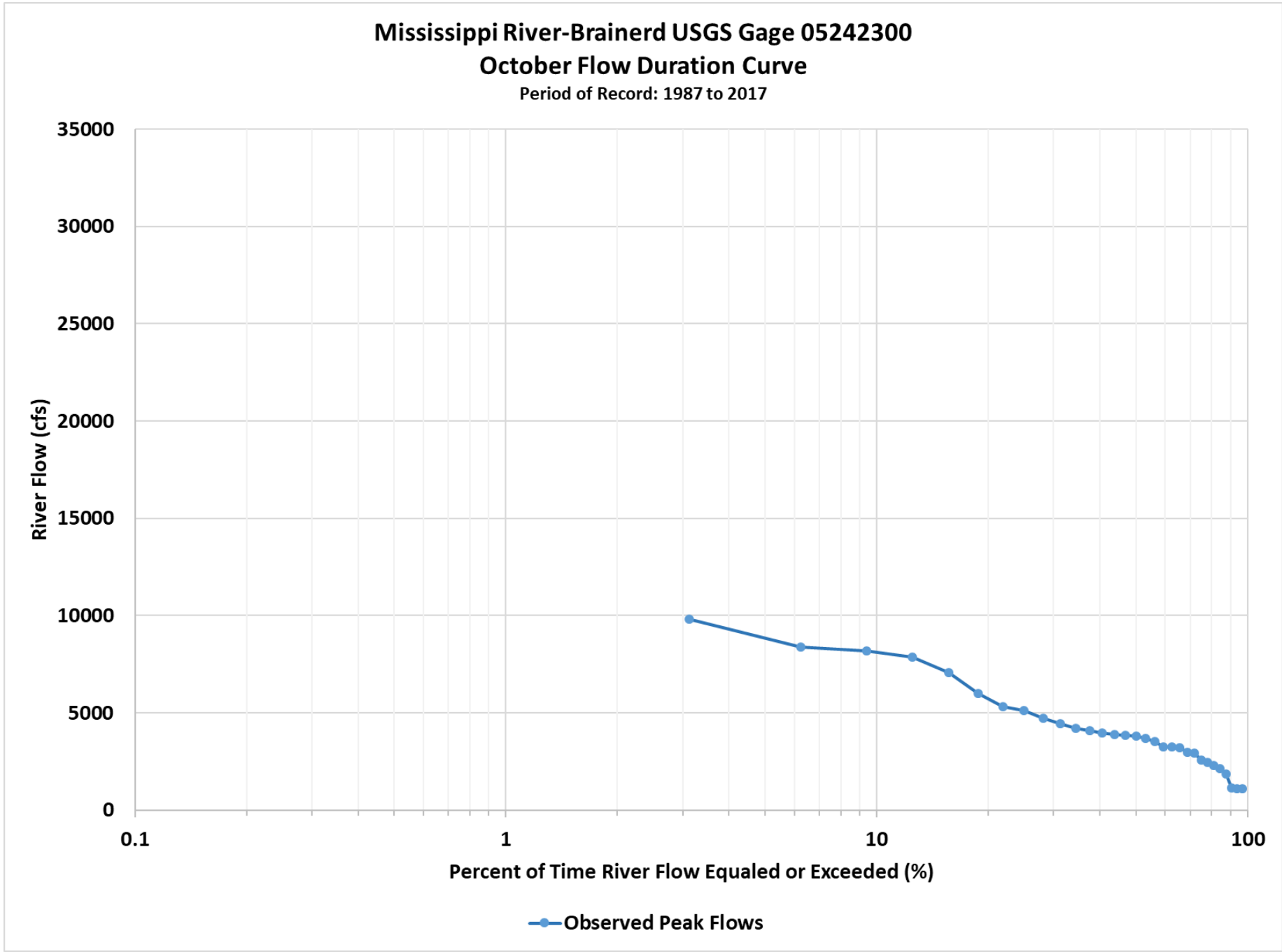

Mississippi River-Brainerd USGS Gage 05242300
May Flow Duration Curve
Period of Record: 1987 to 2017
River Flow (cfs)
35000
30000
25000
20000
15000
10000
5000
0
0.1
1
10
100
Percent of Time River Flow Equaled or Exceeded (%)
Observed Peak Flows

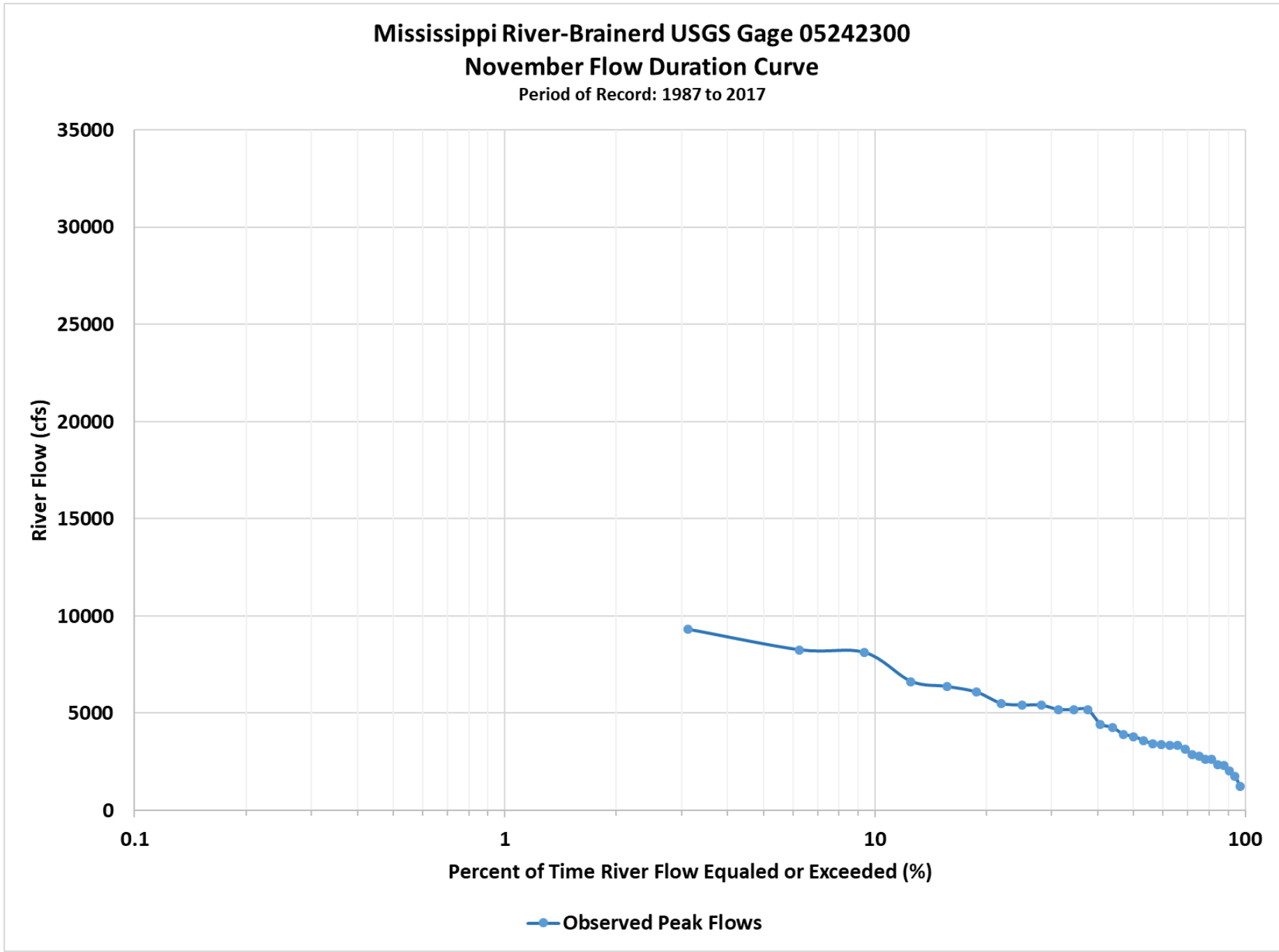

Mississippi River-Brainerd USGS Gage 05242300
June Flow Duration Curve
Period of Record: 1987 to 2017
River Flow (cfs)
35000
30000
25000
20000
15000
10000
5000
0
0.1
1
10
100
Percent of Time River Flow Equaled or Exceeded (%)
Observed Peak Flows

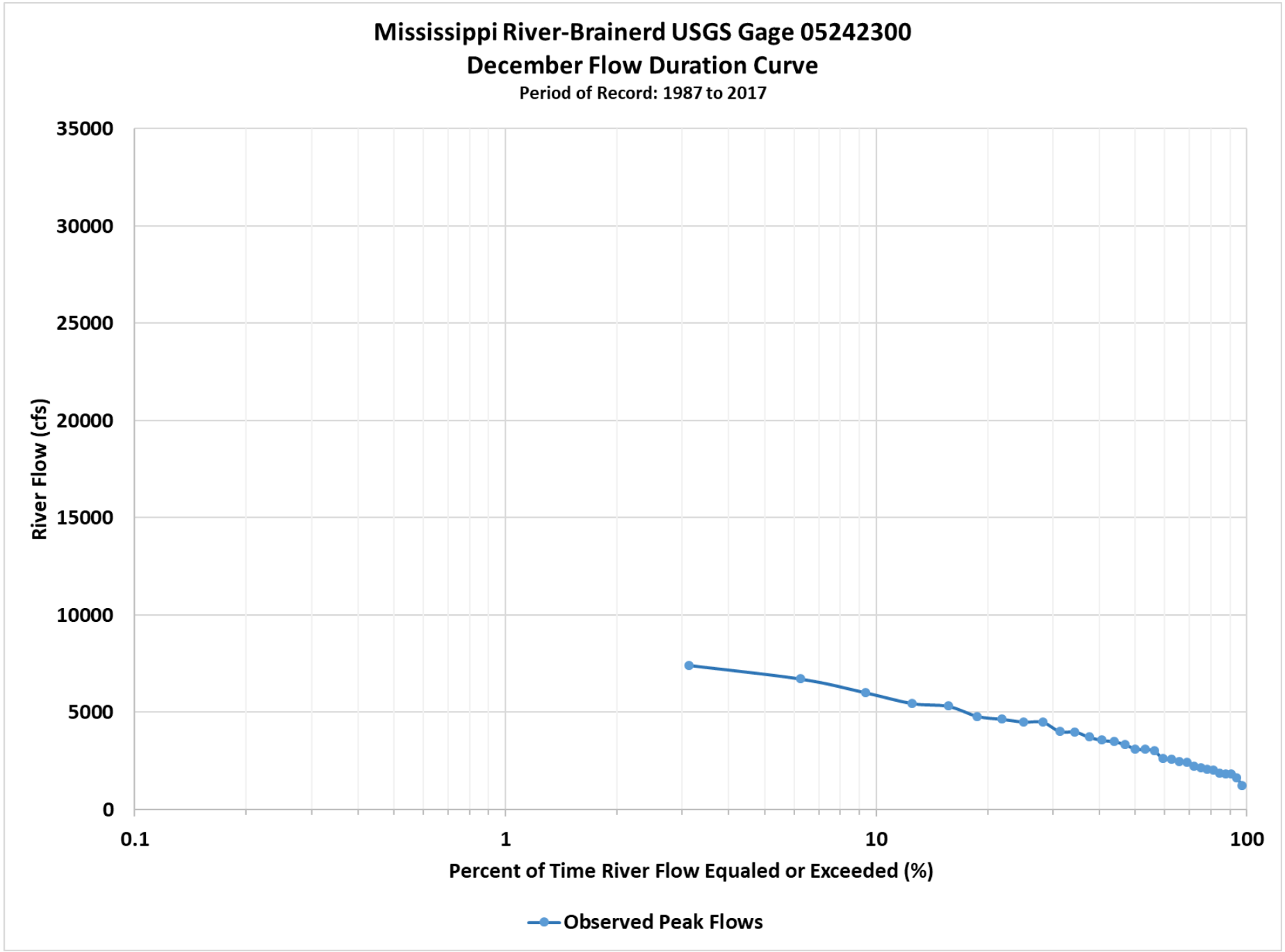

Mississippi River-Brainerd USGS Gage 05242300
July Flow Duration Curve
Period of Record: 1987 to 2017
River Flow (cfs)
35000
30000
25000
20000
15000
10000
5000
0
0.1
1
10
100
Percent of Time River Flow Equaled or Exceeded (%)
Observed Peak Flows


Mississippi River-Brainerd USGS Gage 05242300
August Flow Duration Curve
Period of Record: 1987 to 2017
River Flow (cfs)
35000
30000
25000
20000
15000
10000
5000
0
0.1
1
10
100
Percent of Time River Flow Equaled or Exceeded (%)
Observed Peak Flows


Mississippi River-Brainerd USGS Gage 05242300
September Flow Duration Curve
Period of Record: 1987 to 2017
River Flow (cfs)
35000
30000
25000
20000
15000
10000
5000
0
0.1
1
10
100
Percent of Time River Flow Equaled or Exceeded (%)
Observed Peak Flows


Mississippi River-Brainerd USGS Gage 05242300
October Flow Duration Curve
Period of Record: 1987 to 2017
River Flow (cfs)
35000
30000
25000
20000
15000
10000
5000
0
0.1
1
10
100
Percent of Time River Flow Equaled or Exceeded (%)
Observed Peak Flows


Mississippi River-Brainerd USGS Gage 05242300
November Flow Duration Curve
Period of Record: 1987 to 2017
35000
30000
25000
20000
15000
10000
5000
0
River Flow (cfs)
0.1
1
10
100
Percent of Time River Flow Equaled or Exceeded (%)
Observed Peak Flows


Mississippi River-Brainerd USGS Gage 05242300
December Flow Duration Curve
Period of Record: 1987 to 2017
River Flow (cfs)
35000
30000
25000
20000
15000
10000
5000
0
0.1
1
10
100
Percent of Time River Flow Equaled or Exceeded (%)
Observed Peak Flows

Appendix F: Water Quality Certification

Brainerd
Public Utilities
8027 Highland Scenic Road
Post Office Box 373
Brainerd, MN 56401-0373
(218) 829-8726 • www.bpu.org

March 21, 2016

Federal Energy Regulatory Commission
Office of the Secretary
888 Frist Street NE, RM1A
Washington DC 20426

Attn: Kimberly D. Bose
Secretary

Subject: AMJET Turbine Application - Brainerd Public Utilities
FERC Non-Capacity License Amendment Application: Supplemental Information: Minnesota Pollution Control Agency 401 Certification
Docket Number – P-2533-006
Accession No.: 200150805-534

Dear Ms. Bose:

In regards to the above referenced application to the Federal Regulatory Commission (FERC), Brainerd Public Utilities (BPU) contacted the Minnesota Pollution Control Agency (MPCA) and requested a 401 Certification for the proposed project. The response letter from MPCA (Attachment 1), the original project 401 Certification (Attachment 2), and the recently received US Army Corps. of Engineers 404 Section 10 Certification (Attachment 3) are included as supplemental information to the FERC Application.

MPCA has concluded that the original 401 Certification remains in effect and the BPU does not need a new 401 Certification for the proposed project. Therefore, we request that FERC consider the attached supplemental information and resume review of the application.

If you have any questions, please contact me at (218) 825-3213 or SMagnuson@bpu.org. Thank you for your continued support and assistance regarding this Project.

Sincerely,

Brainerd Public Utilities

Scott Magnuson
Superintendent

Enclosure: Attachment 1 Response from Minnesota Pollution Control Agency Regarding 401 Certification Request
Attachment 2 Copy of Existing 401 Certification October 20, 1992
Attachment 3 Copy of 404 Section 10 US Army Corp of Engineers

cc: Paul Roos, AMJET Turbine Systems LLC
Norman Bishop, Knight Piésold and Co.

Attachment 1

Response from Minnesota Pollution Control Agency Regarding 401 Certification Request

Minnesota Pollution Control Agency

520 Lafayette Road North | St. Paul, Minnesota 55155-4194 | 651-296-6300

800-657-3864 | Use your preferred relay service | info.pca@state.mn.us | Equal Opportunity Employer

March 18, 2016

Mr. Scott Magnuson
Superintendent, Brainerd Public Utilities
8027 Highland Scenic Road
PO Box 373
Brainerd, MN 56401-0373

RE: Brainerd Public Utilities AMJET Turbine Application, FERC Non-Capacity License Amendment, Docket Number P-2533-006

Dear Mr. Magnuson:
This letter is submitted by the Minnesota Pollution Control Agency (MPCA) under authority of Section 401 of the Clean Water Act (CWA) (33 USC 1251 et seq.), Minn. Stat. chs. 115 and 116, and Minn. R. 7001.1400-7001.1470, 7050, 7052, and 7053.

On March 10, 2016, Brainerd Public Utilities (BPU) requested a Section 401 Certification from the MPCA for a Non-Capacity License Amendment to existing FERC License #2533-006. The MPCA has reviewed the information provided, including the existing FERC license and the application materials for the Non-Capacity License Amendment.

The Brainerd Hydroelectric project was originally proposed by and licensed to Potlatch Corporation; BPU acquired the license on March 13, 2014, and agreed to accept all of the terms and conditions of the license and be bound by the license as if it were the original licensee. The MPCA views the original Section 401 Certification as part of the terms and conditions of the original license.

On June 26, 1989, in a letter from Timothy K. Scherkenbach, Director of the Division of Water Quality, the MPCA indicated that the Brainerd Hydroelectric project would be considered certified provided that a formal operating plan was submitted to address the water quality concerns during emergency, repair, or other unusual flow conditions. That operating plan was submitted in February 1991, with interagency discussions in April 1991, and a final Plan of Operation was submitted on October 24, 1991. On October 20, 1992, the MPCA, in a letter from Duane L. Anderson, Manager, Assessment and Planning Section in the Water Quality Division, notified then-owner Potlatch Corporation that the Plan of Operation was approved and the project was certified.

Based on the information you provided on March 10, 2016, stating that there will be no significant structural changes for the installation of the new turbine unit, no change to the dam or reservoir, and no changes to the existing operations of the project, the MPCA believes that the original Section 401 Certification for this project remains in effect and BPU does not need a new Section 401 Certification.

A Section 401 certification does not release the applicant from obtaining all necessary federal, state and local permits, nor does it limit more restrictive requirements set through any such program. It does not eliminate, waive or vary the applicant's obligation to comply with all state water statutes and rules through the construction, installation and operation of the project, including, but not limited to, the National Pollution Discharge Elimination System, State Disposal System permitting program, and Minn. R. 7050.

This MPCA's decision is made, in part, on the applicant's representations that environmental review under the Minnesota Environmental Quality Board's Rules, Minn. R. ch. 4410, is not needed for the project or, alternatively, that all necessary environmental reviews and related decisions have been completed. If environmental review for this project is needed and has not been completed, this MPCA Certification decision is null and void and of no legal effect. In that situation, MPCA reserves the right to make a Section 401 decision when the environmental review process is completed.

This letter does not release the applicant from any liability, penalty or duty imposed by Minnesota or federal statutes, regulations, rules or local ordinances and it does not convey a property right or an exclusive privilege. If you have any questions or require additional information regarding this certification, please contact me at 651-757-2607.

Sincerely,

Catherine Neuschler
Supervisor, Agency Rules Unit
Environment and Energy Section
Resource Management and Assistance Division

CN:je

cc: Catherine Schumacher, Knight Piesold

Attachment 2

Copy of Existing 401 Certification October 20, 1992

CCRH

RVH

NOV 1 8 1992

Minnesota Pollution Control Agency

Celebrating our 25th anniversary and the 20th anniversary of the Clean Water Act

CRP

OCT 2 3 1992

RECEIVED
JAN 11 1993
T. G. PALKIE

October 20, 1992

cc T6P

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Charles R. Pottenger
Vice President and General Manager
Potlatch Corporation - Northwest Paper Division
207 Avenue C
Post Office Box 510
Cloquet, Minnesota 55720

Dear Mr. Pottenger:

RE: Potlatch Corporation
Brainerd Hydroelectric Project
Mississippi River
FERC Project # 2533

This letter is in response to Mead & Hunt's letter of October 24, 1991, requesting Section 401 water quality certification for the project referenced above. In a letter dated June 5, 1989, Mead & Hunt requested the Clean Water Act Section 401 water quality certification for the same project and the Minnesota Pollution Control Agency (MPCA) responded on June 26, 1989.

At that time, the MPCA certified the Brainerd Hydroelectric Project with the condition that a formal operating plan, addressing water quality concerns during emergencies, repair, and other unusual flow conditions, would be developed and submitted to the Minnesota Department of Natural Resources (MDNR). This certification applied only to the hydroelectric facility discharge and did not affect other permits required for the Potlatch Corporation at its Brainerd facility.

A Plan of Operation was developed for the Brainerd plant and was submitted to the MPCA in February 1991. This plan was reviewed and the MPCA determined that the conditions set forth in the Section 401 certification were met. Therefore, the 401 water quality certification stands as issued by the MPCA.

If you have any questions on this, please call Judy Bostrom either through the MPCA's toll-free telephone number (1-800-657-3864) or directly at 1-612-296-7315.

Sincerely,

Duane L. Anderson, Manager
Assessment and Planning Section
Water Quality Division

DLA:ls

cc: Mr. Milo Anderson, U.S. Environmental Protection Agency, Chicago
Ms. Lois Cashell, Federal Energy Regulatory Commission
Mr. Turre Sandstrom, Potlatch Corporation, Cloquet

Attachment 3

Copy of 404 Section 10 US Army Corp of Engineers

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

MAR 7 2016

REPLY TO
ATTENTION OF

Operations
Regulatory (2013-00480-RQM)

Mr. Scott Magnuson
Brainerd Public Utilities
8027 Highland Scenic Road
Baxter, Minnesota 56425

Dear Mr. Magnuson:

We have reviewed information about your permit application to install a 516 sq. ft. test generator in the Mississippi River at the Wausau Paper Mills Dam as depicted in the attached drawing labeled 2013-00480-RQM one of one. The project site is in Sec. 18, T. 45 N., R. 30 E., Crow Wing County, Minnesota.

Department of the Army Regional General Permit-003-MN (RGP-003-MN) provides authorization under section 404 of the Clean Water Act for certain categories of activities involving the discharge of dredged or fill material into waters of the U.S. or activities conducted in/over/under waters covered by Section 10 of the Rivers and Harbors Act. We have determined that the described work is authorized by RGP-003-MN category O, provided the attached Standard Conditions are followed.

This determination covers only the project as described above. If the design, location, or purpose of the project is changed, our office should be contacted to make sure the work would not result in a violation of Federal law.

If your project will require off-site fill material that is **not** obtained from a licensed commercial facility, you must notify us at least five working days before start of work. A cultural resources survey may be required if a licensed commercial facility is not used.

This General Permit is valid until January 31, 2017, unless modified, reissued, or revoked. The time limit for completing the work described above ends on that day. It is the permittee's responsibility to remain informed of changes to the General Permit program. If this authorized work is not undertaken within the above time period, or the project specifications have changed, our office must be contacted to determine the need for further approval or re-verification.

It is the permittee's responsibility to ensure that the work complies with the terms of this letter and any enclosures, AND THAT ALL REQUIRED STATE AND LOCAL PERMITS AND APPROVALS ARE OBTAINED BEFORE WORK PROCEEDS.

A preliminary jurisdictional determination (JD) has been prepared for the site of your project. The preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps representative identified in the final paragraph of this letter. You also may provide new information for further consideration by the Corps to reevaluate the JD. If this JD is acceptable, please sign and date both copies of the Preliminary Jurisdictional Determination Form and return one copy to the address below within 15 days from the date of this letter.

U.S. Army Corps of Engineers
St. Paul District
180 5th Street East, Suite 700
St. Paul, Minnesota 55101-1678
Attn: project manager

If you have any questions, contact **Rob Maroney** in our Brainerd field office at (651) 290-5766. In any correspondence or inquiries, please refer to the Regulatory number shown above.

Sincerely,

for Stacey M. Jensen
Acting Chief, Regulatory Branch

Enclosure:
2013-00480-RQM one of one

2013-00480-RQM one of one

U.S. Army Corps of Engineers
St. Paul District

Terms and Conditions of Regional General Permit-003-MN Activity O: Residential, Commercial, Agricultural and Institutional Developments

The following description of residential, commercial, agricultural and institutional development activities authorized under Regional General Permit-003-Minnesota (RGP-003-MN) is excerpted from RGP-003-MN. Read RGP-003-MN in its entirety at http://www.mvp.usace.army.mil/regulatory/. All projects authorized under RGP-003-MN must also follow the Standard Conditions of RGP-003-MN and any terms specified in the RGP-003-MN verification letter.

O. Residential, Commercial, Agricultural and Institutional Developments. Discharges of dredged or fill material in waters of the U.S. or work in Section 10 waters for a single and complete project for the construction or expansion of residential, commercial, agricultural, or institutional operations or developments that do not result in impacts to more than ½ acre of waters of the U.S. or 500 linear feet of a stream. Activities authorized include building foundations, building pads, and attendant features. Attendant features include, but are not limited to: roads, parking lots, garages, utility lines, geothermal systems, yards, storm water management facilities, culvert installation, and recreational facilities that are integral to the development.

For any development or subdivision, the aggregate total loss of waters of the U.S. authorized under this category cannot exceed ½ acre. This RGP category does not authorize maintenance dredging for the primary purpose of navigation. The disposal of excavated or dredged material into a water of the U.S. obtained from a maintenance dredging operation is not authorized under this RGP category. No new stream channelization or stream relocation work is authorized under this RGP category. **(Section 10 RHA / Section 404 CWA)**

Notification Requirements: The project proponent must notify the District Engineer by submitting a PCN and receive written confirmation that the project is authorized by the RGP-003-MN.

STANDARD CONDITIONS

All RGP-003-MN authorizations are subject to the following standard conditions, as applicable, in addition to any case-specific conditions imposed by the District Engineer. These conditions and any special conditions must be satisfied for any RGP authorization to be valid:

1. Mitigation/Sequencing. Discharges of dredged or fill material into waters of the U.S. **must be minimized or avoided to the maximum extent practicable.**

When determining the least environmentally damaging practicable on-site alternative, impacts to all resources including jurisdictional waters, non-jurisdictional waters, and high quality uplands should be considered.

Mitigation in all its forms (avoiding, minimizing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal. Compensatory mitigation requirements are determined on a case by case basis and may be required to reduce adverse effects of a project, either temporary or permanent, to the minimal level.

The District Engineer will determine appropriate compensatory mitigation requirements in accordance with Federal guidelines and established District policy.

Generally, compensatory wetland mitigation shall be required for projects that impact more than:

400 square feet in a shoreland wetland protection zone,

2,000 square feet in a "less-than-50 percent" county,

5,000 square feet in a "50%-to-80%" county, and

10,000 square feet in a "greater than 80%" county.

as shown on the attached map labeled enclosure 5:

When the above project thresholds are exceeded, the compensatory mitigation requirement applies to the project's total wetland impacts, including the threshold amounts specified above. Use of Corps-approved mitigation banks and in-lieu fee procedures are generally acceptable methods of providing compensatory mitigation for small projects having compensatory mitigation requirements of 1/4 acre or less.

Compensatory mitigation shall be designed to replace the functions lost as result of the project. Where certain functions and services of waters of the U.S. are permanently adversely affected as a result of the authorized discharge, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility right of way, or are temporarily affected, such as the temporary conversion of forested or scrub-shrub wetlands in a linear project corridor, compensatory mitigation may be required to reduce the adverse effects of the project to the minimal level.

For activities where compensatory mitigation is required, project proponents should include a mitigation plan prepared in accordance with 33 CFR Part 332, and *the St. Paul District Policy for Wetland Compensatory Mitigation in Minnesota* (http://www.mvp.usace.army.mil/regulatory/default.asp?pageid=924&subpageid=387). The plan prepared should describe the measures proposed to ensure that the activity complies with the Section 404(b)(1) guidelines (40 CFR Part 230). In cases where a Corps-approved bank is proposed to be used, a statement of intent to use the bank is generally sufficient. Compensatory mitigation required by other Federal or state programs may, but will not necessarily, satisfy this Clean Water Act requirement.

2. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation. (b) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

3. Suitable fill material. No activity may use unsuitable material (e.g., trash, debris, car bodies, unprocessed asphalt, etc.). All fill (including riprap) authorized under this RGP, must be free from toxic pollutants in toxic amounts.

4. Proper maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

5. Erosion and siltation controls. Appropriate erosion and siltation controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark, must be permanently stabilized at the earliest practicable date. Work should be done in accordance with state-approved, published practices, such as defined in Minnesota Pollution Control Agency document, PROTECTING WATER QUALITY IN URBAN AREAS - BEST MANAGEMENT PRACTICES FOR MINNESOTA.

Upon completion of earthwork operations, all exposed slopes, fills, and disturbed areas must be given sufficient protection by appropriate means such as landscaping, or planting and maintaining vegetative cover, to prevent subsequent erosion. Cofferdams shall be constructed and maintained so as to prevent erosion into the water. If earthen material is used for cofferdam construction, sheet piling, riprap or a synthetic cover must be used to prevent dam erosion.

6. Removal of temporary fills. Temporary fills are allowed to remain in place for up to three months. Upon request the District Engineer may extend this period, allowing temporary fills to remain in place for up to a total of 180 days, where appropriate.

At the end of the specified timeframe, temporary fills must be removed in their entirety and the affected areas returned to their preconstruction contours and elevation. The areas affected by temporary fills must be re-vegetated with native, non-invasive plant species, as appropriate.

7. Obstruction of high flows. To the maximum extent practicable, discharges must not permanently restrict or impede the passage of normal or expected high flows or cause the relocation of the water (unless the primary purpose of the fill is to impound waters).

8. **Historic Properties, Cultural Resources**. (a) No activity which may affect historic properties listed, or potentially eligible for listing, on the National Register of Historic Places is authorized, until the District Engineer has complied with the requirements of Section 106 of the National Historic Preservation Act (NHPA). Federal project proponents should follow their own procedures for complying with the requirements of Section 106, and provide documentation of compliance with those requirements. Information on the location and existence of historic resources can be obtained from the State Historic Preservation Office and the National Register of Historic Places. (b) If cultural resources, such as historic structures or buildings, or archaeological remains are identified in the project area, or are discovered during activities authorized by this permit, you must immediately stop work and notify the District Engineer of what you have found. We will initiate the Federal and state coordination required to satisfy our responsibilities under Section 106 of the NHPA. (c) Rock or fill material used for activities authorized by this permit must either be obtained from existing quarries or, if a new borrow site is opened up to obtain fill material, the Corps must be notified prior to the use of the new site to determine whether a cultural resources survey of the site is necessary.

9. Adverse effects from impoundments. If the activity creates an impoundment of water, adverse effects on the aquatic system caused by the accelerated passage of water and/or the restriction of its flow shall be minimized to the maximum extent practicable.

10. Migratory Bird breeding areas. Activities in waters of the U.S. that serve as breeding areas for migratory birds, including waterfowl, must be avoided to the maximum extent practicable.

11. Aquatic life movements. No activity may substantially disrupt the movement of those species of aquatic life indigenous to the water body, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water.

12. Spawning areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

13. Equipment. Heavy equipment working in wetlands must be placed on mats, or other measures must be taken to minimize soil disturbance. Equipment should be clean and free of greases, oils, fuels, and sediments prior to working within aquatic habitats.

14. Tribal rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

15. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river has determined that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service.)

16. Water quality standards. All work or discharges to a watercourse resulting from permitted construction activities, particularly hydraulic dredging, must meet applicable Federal, State, and local water quality and effluent standards on a continuing basis.

17. Preventive measures. Measures must be adopted to prevent potential pollutants from entering the watercourse. Construction materials and debris, including fuels, oil, and other liquid substances, shall not be stored in the construction area in a manner that would allow them to enter the watercourse as a result of spillage, natural runoff, or flooding. To the extent practicable and appropriate measures should be taken to control and minimize the spread of invasive species via equipment transfer.

18. Spill contingency plan. A contingency plan must be formulated that would be effective in the event of a spill. This requirement is particularly applicable in operations involving the handling of petroleum products. If a spill of any potential pollutant should occur, it is the responsibility of the permittee to remove such material, to minimize any contamination resulting from this spill, and to immediately notify the State Duty Officer at 1-800-422-0798 and the U.S. Coast Guard at 1-800-424-8802.

19. **Disposal sites.** If dredged or excavated material is placed on an upland disposal site (above the ordinary high-water mark), the site must be securely diked or contained by some other acceptable method that prevents the return of potentially polluting materials to the watercourse by surface runoff or by leaching. The containment area, whether bulkhead or upland disposal site, must be fully completed prior to the placement of any dredged material.

20. Water intakes/activities. No activity may occur in the proximity of a public water supply intake, except where the activity is for repair or improvement of the public water supply intake structures or adjacent bank stabilization.

21. Endangered Species. (a) No activity is authorized which is likely to adversely affect a threatened or endangered species as identified under the Federal Endangered Species Act (ESA), or which is likely adversely affect critical habitat of such species. (b) No activity is authorized which may affect a listed species or critical habitat unless consultation under the ESA addressing the effects of the proposed activity has been completed. Non-federal permittees shall notify the District Engineer if any listed species or critical habitat might be affected or is in the vicinity of the project, and shall not begin work on the activity until notified by the District Engineer that the requirements of the ESA have been satisfied and that the activity is authorized. Federal project proponents should follow their own procedures for complying with the requirements of the ESA and provide documentation of compliance with those requirements. (c) No activity is authorized which is likely to jeopardize a proposed species or which is likely to adversely modify proposed critical habitat. (d) Authorization of an activity under RGP-003-MN does not authorize the take of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with incidental take provisions, etc.) from the U.S. Fish and Wildlife Service (USFWS), both lethal and non-lethal takes of protected species are in violation of the ESA. General information on the location of threatened and endangered species and their critical habitat is provided in Attachment A and Enclosures 3-7. Information can also be obtained directly from the offices of the USFWS Twin Cities Field office (TCFO) at 612-725-3548. (e) If it becomes apparent that a federally listed endangered plant or animal species will be affected by work authorized by this permit, work must be stopped immediately and the St. Paul District Corps of Engineers must be contacted for further instruction.

22. Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act. Notification to the Corps is required for projects within 0.5 miles (2640 feet) of an eagle nest. There are approximately 1300 bald eagle nests distributed among 64 of Minnesota's 87 counties. In Minnesota, bald eagles typically nest in old, large diameter trees within approximately 500 feet of a water body.

It is recommended that the project proponent also contact the USFWS TCFO (612-725-3548) if the proposed project will disturb a bald eagle or a bald eagle nest. Projects involving the placement of potentially lethal infrastructure (communication towers, wind turbines, transmission lines, etc) within two miles of a bald eagle nest may warrant additional review.

For more information concerning the Bald and Golden Eagle Protection Act or the Migratory Bird Treaty Act refer to the following websites:

http://www.fws.gov/migratorybirds/mbpermits.html

http://www.fws.gov/midwest/eagle/protect/index.html

http://www.fws.gov/midwest/eagle/guidelines/disturbnestingbaea1.html

23. Expiration Date. Unless otherwise specified in the District's letter confirming your project complies with the requirements of this RGP, the time limit for completing work authorized by RGP-003-MN ends upon the expiration date of this RGP-003-MN. Activities authorized under the RGP-003-MN that have commenced construction or are under contract to commence construction, will remain authorized provided the activity is completed within 12 months of the date of the RGP-003-MN expiration, suspension, or revocation; whichever is sooner. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least three months before the expiration date is reached.

24. Maintenance and Transfer. You must maintain the authorized activity in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

25. Inspection. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of RGP-003-MN.

26. State Section 401 Water Quality Certification. The State of Minnesota Pollution Control Agency has issued a 401 certification for the RGP-003-MN**.** Permittees must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached.

27. Coastal Zone Management consistency determination. The State of Minnesota has determined that the RGP-003-MN is consistent with the CZM program.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344) and/or Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

2. Limits of this authorization.

a. RGP-003-MN does not obviate the need to obtain the other Federal, state, or local authorizations required by law.

b. RGP-003-MN does not grant any property rights or exclusive privileges.

c. RGP-003-MN does not authorize any injury to the property or rights of others.

d. RGP-003-MN does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In authorizing work, the Federal Government does not assume any liability, including but not limited to the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or un-permitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or un-permitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Project Proponent's Data: The determination by this office that an activity is not contrary to the public interest will be made in reliance on the information provided by the project proponent.

5. Reevaluation of Decision. This office may reevaluate its decision on an authorization at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. The permittee fails to comply with the terms and conditions of this permit.

b. The information provided by the permittee in support of the preconstruction notification proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that is appropriate to use the suspension, modification, or revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring the permittee to comply with the terms and conditions of the permit and for the initiation of legal action where appropriate.

6. This Office may also reevaluate its decision to issue RGP-003-MN at any time the circumstances warrant.

Circumstances that could require a reevaluation include, but are not limited to, the following: significant new information surfaces which this office did not consider in reaching the original public interest decision. Such a reevaluation may result in a determination that is appropriate to use the suspension, modification, or revocation procedures contained in 33 CFR 325.7.

Appendix G: USFWS Updated List of Threatened and Endangered Species

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Minnesota-Wisconsin Ecological Services Field Office
4101 American Blvd E
Bloomington, MN 55425-1665
Phone: (952) 252-0092 Fax: (952) 646-2873
http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html

In Reply Refer To: February 14, 2018
Consultation Code: 03E19000-2017-SLI-0538
Event Code: 03E19000-2018-E-00835
Project Name: Brainerd Dam FERC License Renewal

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

To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the action area the area that is likely to be affected by your proposed project. The list also includes any designated and proposed critical habitat that overlaps with the action area. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representatives) must consult with the Service if they determine their project may affect listed species or critical habitat. Agencies must confer under section 7(a)(4) if any proposed action is likely to jeopardize species proposed for listing as endangered or threatened or likely to adversely modify any proposed critical habitat.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally. You may verify the list by visiting the ECOS-IPaC website http://ecos.fws.gov/ipac/ at regular intervals during project planning and implementation and completing the same process you used to receive the attached list. As an alternative, you may contact this Ecological Services Field Office for updates.

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at - http://www.fws.gov/midwest/endangered/section7/

s7process/index.html. This website contains step-by-step instructions that will help you determine if your project will have an adverse effect on listed species or critical habitat and will help lead you through the Section 7 process.

For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within the action area.

Although no longer protected under the Endangered Species Act, be aware that bald eagles (*Haliaeetus leucocephalus*) are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*) and Migratory Bird Treaty Act *(*16 U.S.C. 703 *et seq*), as are golden eagles (*Aquila chrysaetos*). Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near a bald eagle nest or winter roost area, see our Eagle Permits website at http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html. The information available at this website will help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- Migratory Birds

Official Species List

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

This species list is provided by:

Minnesota-Wisconsin Ecological Services Field Office
4101 American Blvd E
Bloomington, MN 55425-1665
(952) 252-0092

Project Summary

Consultation Code: 03E19000-2017-SLI-0538

Event Code: 03E19000-2018-E-00835

Project Name: Brainerd Dam FERC License Renewal

Project Type: ** OTHER **

Project Description: The project includes renewal of the facility's existing FERC license.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/46.4162336541563N94.15018854453277W

Counties: Crow Wing, MN

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Mammals

NAME	STATUS
Gray Wolf *Canis lupus* Population: MN There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4488	Threatened
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

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

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see maps of where birders and the general public have sighted birds in and around your project area, visit E-bird tools such as the E-bird data mapping tool (search for the name of a bird on your list to see specific locations where that bird has been reported to occur within your project area over a certain timeframe) and the E-bird Explore Data Tool (perform a query to see a list of all birds sighted in your county or region and within a certain timeframe). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Bittern *Botaurus lentiginosus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6582	Breeds Apr 1 to Aug 31

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Black Tern *Chlidonias niger* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Cape May Warbler *Setophaga tigrina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Jul 31
Connecticut Warbler *Oporornis agilis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 15 to Aug 10
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Evening Grosbeak *Coccothraustes vespertinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Aug 10
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Golden-winged Warbler *Vermivora chrysoptera* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8745	Breeds May 1 to Jul 20

NAME	BREEDING SEASON
Harris's Sparrow *Zonotrichia querula* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Jul 20
Semipalmated Sandpiper *Calidris pusilla* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31
Yellow Rail *Coturnicops noveboracensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9476	Breeds May 15 to Sep 10

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in your project's counties during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

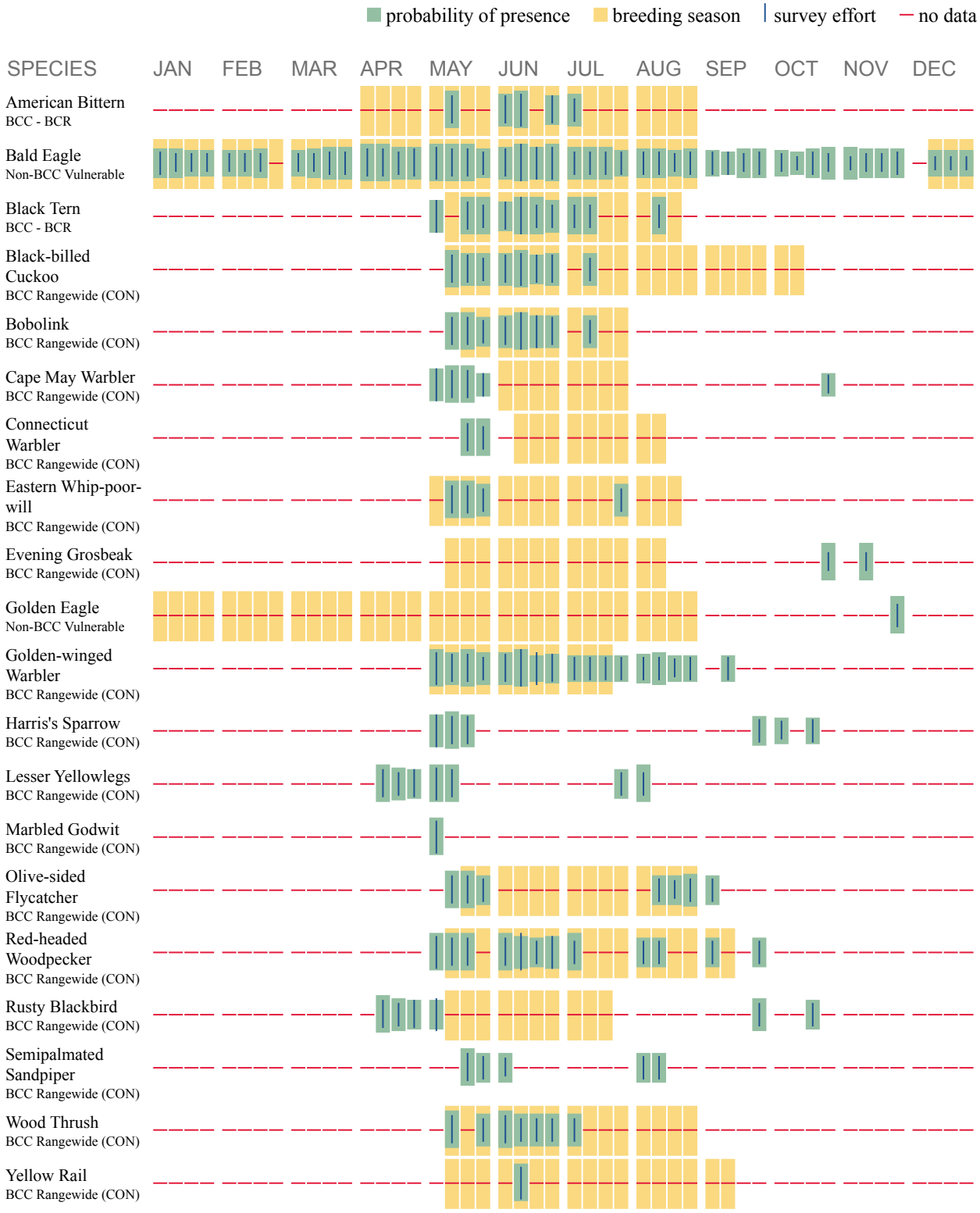
1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the counties of your project area. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information.


probability of presence
breeding season
survey effort
no data
SPECIES
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
American Bittern
BCC - BCR
Bald Eagle
Non-BCC Vulnerable
Black Tern
BCC - BCR
Black-billed Cuckoo
BCC Rangewide (CON)
Bobolink
BCC Rangewide (CON)
Cape May Warbler
BCC Rangewide (CON)
Connecticut Warbler
BCC Rangewide (CON)
Eastern Whip-poor-will
BCC Rangewide (CON)
Evening Grosbeak
BCC Rangewide (CON)
Golden Eagle
Non-BCC Vulnerable
Golden-winged Warbler
BCC Rangewide (CON)
Harris's Sparrow
BCC Rangewide (CON)
Lesser Yellowlegs
BCC Rangewide (CON)
Marbled Godwit
BCC Rangewide (CON)
Olive-sided Flycatcher
BCC Rangewide (CON)
Red-headed Woodpecker
BCC Rangewide (CON)
Rusty Blackbird
BCC Rangewide (CON)
Semipalmated Sandpiper
BCC Rangewide (CON)
Wood Thrush
BCC Rangewide (CON)
Yellow Rail
BCC Rangewide (CON)

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.
Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the counties which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird entry on your migratory bird species list indicates a breeding season, it is probable that the bird breeds in your project's counties at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical

Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the BGEPA should such impacts occur.

Appendix H: Agency Engagement

resourceful. naturally.
engineering and environmental consultants

BARR

Date

Recipient
Company
Address
Address
City, State Zip

Re: Brainerd Hydroelectric Project Relicensing

Dear Name:

Barr Engineering Co. (Barr) is assisting Brainerd Public Utilities (BPU) with developing application materials to renew the Federal Energy Regulatory Commission (FERC) license for the Brainerd Dam (i.e. the Project). The Project is a 3,542.5 kilowatt facility located on the Mississippi River in the City of Brainerd. It consists of a short left embankment, a powerhouse, a slide gate section, a bascule (crest) gate section, a single steel tainter gate, and a right embankment. A project location map depicting the Project boundaries is attached.

The Project's current FERC license will expire on February 28, 2023, and a new application will need to be filed by February 28, 2021. The FERC relicensing process will take approximately five years and will authorize the Project to operate as a hydroelectric facility for the next 30 to 50 years.

Barr is currently assisting BPU with development of a Pre-Application Document for FERC. This document will provide information about the Project, environmental resources in the surrounding area, and BPU's plans for operation under a new license. To ensure that social and environmental resources in the project area are analyzed correctly, we are soliciting your views and comments on the Project. We are interested in existing or proposed developments you may have that should be considered in connection with the Project. We also ask your assistance in identifying any property or resources that you own, manage, oversee, or otherwise value in the vicinity of the Project.

Please provide your written comments within 30 days of the date of this letter to ensure that we will have ample time to review them and incorporate information into the Pre-Application Document.

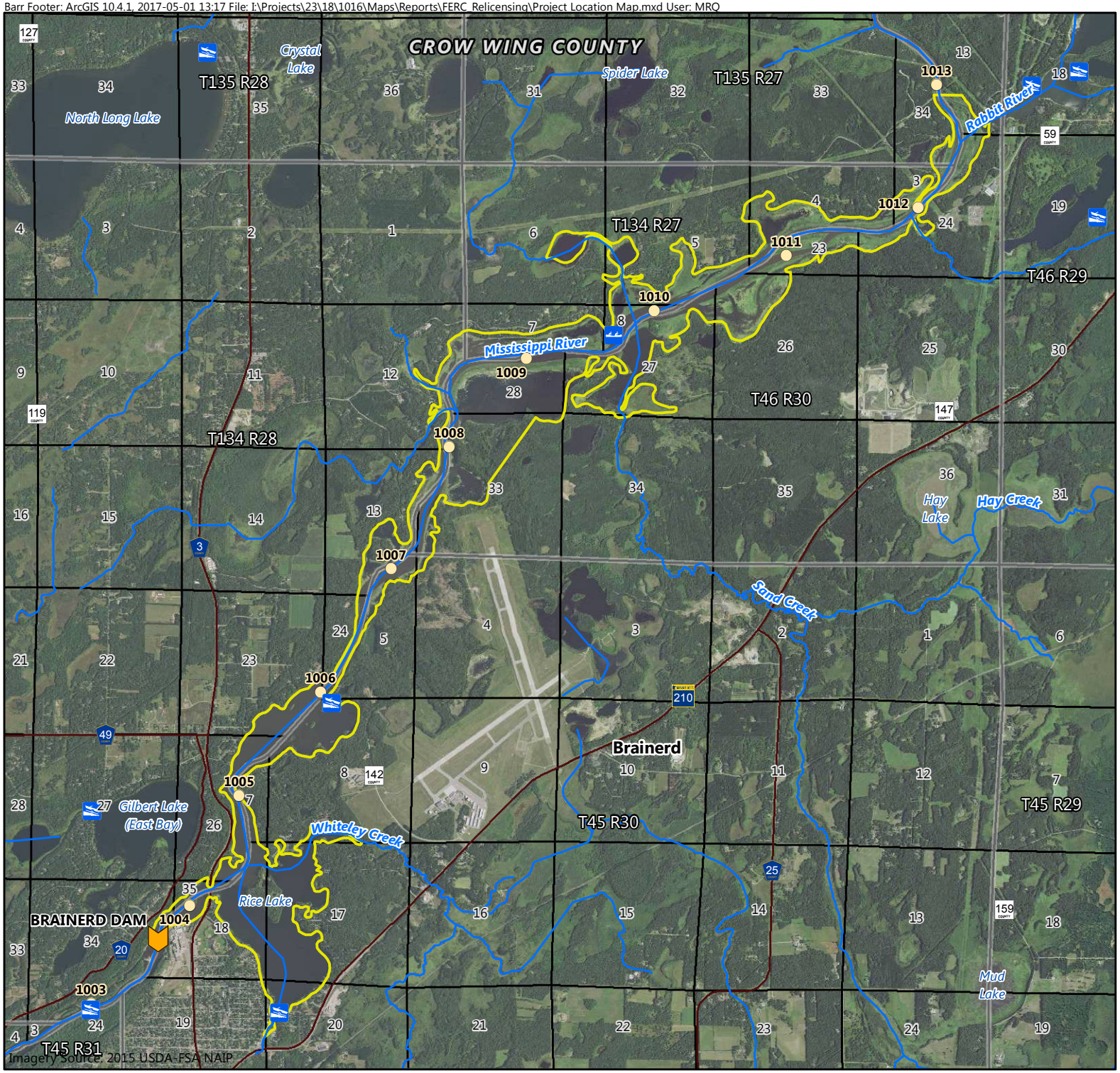
If you would like further information regarding the Project me at 952-842-3618 or sbraun@barr.com. Thank you for your cooperation.

Sincerely,

Shanna Braun
Senior Environmental Scientist

Attachment: Project Location Map

Barr Footer: ArcGIS 10.4.1, 2017-05-01 13:17 File: I:\Projects\23\18\1016\Maps\Reports\FERC_Relicensing\Project Location Map.mxd User: MRQ



- Carry-in/Portage
- Trailer Launch
- River Mile Marker
- Dam Location
- Project Boundary
- PLSS Township
- Major Highway
- PLSS Section

N

0 5,000 10,000

Feet

BARR

Figure 1

PROJECT LOCATION
Brainerd Dam
Brainerd Public Utilities

Agency Type	Agency	Division	Title	Region	Address	CityStateZip	Mailing Date	Re-Mailing Date
FED	Advisory Council on Historic Preservation	Old Post Office Building	Executive Director	Headquarters	1100 Pennsylvania Ave NW Suite 803	Washington DC 20004	10-Aug-17	
FED	Bureau of Indian Affairs	U.S. Department of the Interior	Regional Director	Midwest Region	5600 American Boulevard West Suite 500	Bloomington, MN 55437-1274	10-Aug-17	25-Aug-17
FED	Federal Emergency Management Agency		Director	Headquarters	500 C Street SW	Washington DC 20472	10-Aug-17	
FED	Federal Emergency Management Agency		Regional Administrator	Region 5	536 South Clark Street 6th Floor	Chicago IL 60605	10-Aug-17	
FED	Federal Energy Regulatory Commission	Division of Dam Safety and Inspections	Regional Engineer	Chicago Regional Office	230 South Dearborn Street Room 3130	Chicago IL 60604	10-Aug-17	
FED	National Park Service	U.S. Department of the Interior	Regional Director	Midwest Region	601 Riverfront Drive	Omaha NE 68102-4226	10-Aug-17	
FED	Office of Senator Franken		U.S. Senator Al Franken		309 Hart Senate Office Building	Washington DC 20510	10-Aug-17	
FED	Office of Senator Klobuchar		U.S. Senator Amy Klobuchar		302 Hart Senate Office Building	Washington DC 20510	10-Aug-17	
FED	U.S. Army Corps of Engineers		District Engineer	St. Paul District	190 5th St. East	St. Paul MN 55101-1638	10-Aug-17	
FED	U.S. Bureau of Land Management	U.S. Department of the Interior	State Director	Eastern States Office	20 M Street SE Suite 950	Washington DC 20003	10-Aug-17	25-Aug-17
FED	U.S. Bureau of Reclamation	U.S. Department of the Interior	Commissioner	Headquarters	1849 C Street NW	Washington DC 20240	10-Aug-17	
FED	U.S. Coast Guard	Navigation Standards Division	Commandant (CG-5533)		2100 2nd St. SW Stop 7580	Washington DC 20593-7580	10-Aug-17	
FED	U.S. Coast Guard	Waterways Management Branch	To Whom it May Concern	District Eight	Hale Boggs Federal Building 500 Poydras Street	New Orleans LA 70130-3319	10-Aug-17	
FED	U.S. Department of Agriculture - Forest Service		Regional Forester	Eastern Region - 9	626 East Wisconsin Avenue	Milwaukee WI 53202	10-Aug-17	
FED	U.S. Department of Commerce	Office of the Secretary	Secretary		1401 Constitution Avenue NW	Washington DC 20230	10-Aug-17	
FED	U.S. Environmental Protection Agency	Ariel Rios Building	Administrator	Headquarters	1200 Pennsylvania Ave NW	Washington DC 20460	10-Aug-17	
FED	U.S. Environmental Protection Agency	Office of Enforcement and Compliance Assurance	Supervisor - NEPA Implementation	Region 5: Chicago	77 West Jackson Boulevard Mailcode: E-197	Chicago IL 60604-3507	10-Aug-17	
FED	U.S. Fish and Wildlife Service	BHW Federal Building	Regional Director	Region 3 - Midwest	One Federal Drive	Fort Snelling MN 55111-4056	10-Aug-17	
FED	U.S. Fish and Wildlife Service	Midwest Regional Office	Field Supervisor	Region 3 - Midwest	4101 American Boulevard	Bloomington MN 55425-1638	10-Aug-17	25-Aug-17
FED	United States Geological Survey	Denver Federal Center	Regional Director	Central Region	Box 25046	Denver CO 80225	10-Aug-17	
NGO	American Canoe Association		Executive Director		1340 Central Blvd Suite 210	Fredericksburg VA 22401	10-Aug-17	
NGO	American Rivers		To Whom it May Concern		1101 14th St. NW Suite 1400	Washington DC 20005-5637	10-Aug-17	
NGO	Hydropower Reform Coalition		National Coordinator		1101 14th St. NW Suite 1400	Washington DC 20005-5637	10-Aug-17	
NGO	Hydropower Reform Coalition		National Coordinator		830 Reville Street	Bellingham WA 98229-8804	10-Aug-17	
NGO	Trout Unlimited		To Whom it May Concern		227 SW Pine Street Suite 200	Portland OR 97204-2700	10-Aug-17	
State	Minnesota Department of Natural Resources		Heidi Lindgren, Area Hydrologist		1601 Minnesota Drive	Brainerd, MN 56401	10-Aug-17	

	Minnesota Department of Natural Resources		Jason Boyle Dam Safety Engineer		500 Lafayette Road	St. Paul, MN 55155-0432	10-Aug-17	21-Sep-17
	National Oceanic and Atmospheric Administration	Fisheries Regional Office	Regional Administrator	Northeast Region	55 Great Republic Drive	Gloucester MA 01930-2298	10-Aug-17	21-Sep-17
State	Minnesota Pollution Control Agency - North Central Region		Laurel Mezner, Watershed Unit Supervisor		7678 College Road, Suite 105	Baxter, MN 56425	10-Aug-17	
State	Minnesota Historical Society		SHPO		345 Kellogg Blvd West	St. Paul MN 55102-1906	10-Aug-17	
State	Office of the Attorney General		Attorney General Lori Swanson		State Capitol Suite 102	St. Paul MN 55155	10-Aug-17	
State	Office of the Governor	130 State Capitol	Governor Mark Dayton		75 Rev. Dr. Martin Luther King Jr. Boulevard	St. Paul MN 55155	10-Aug-17	
Tribal	Bois Forte Band of Chippewa		Cultural Resources Specialist		1500 Bois Forte Road	Tower MN 55790-	10-Aug-17	
Tribal	Fond du Lac Reservation Business Committee		Chairman		1720 Big Lake Road	Cloquet MN 55720	10-Aug-17	
Tribal	Grand Portage Reservation Business Committee		Chairman		P.O. Box 428	Grand Portage MN 55605	10-Aug-17	
Tribal	Leech Lake Band of Chippewa Indians		Tribal Historic Preservation Officer		6530 Hwy 2 NW	Cass Lake MN 56633	10-Aug-17	
Tribal	Leech Lake Reservation Business Committee		Chairman		6530 US HWY #2 NW	Cass Lake MN 56633	10-Aug-17	
Tribal	Lower Sioux Indian Community of Minnesota		President		PO Box 308	Morton MN 56270	10-Aug-17	
Tribal	Mille Lacs Band of Ojibwe Indians		Tribal Historic Preservation Officer		43408 Oodena Drive	Onamia MN 56359	10-Aug-17	
Tribal	Minnesota Chippewa Tribe		President		P.O. Box 217	Cass Lake MN 56633	10-Aug-17	
Tribal	Otoe-Missouria Tribe of Indians		John R. Shotton, Chairman		8151 Highway 177	Red Rock OK 74651-0348	10-Aug-17	
Tribal	Prairie Island Indian Community of Minnesota		President		5636 Sturgeon Lake Road	Welch MN 55089	10-Aug-17	
Tribal	Red Lake Band of Chippewa Indians of Minnesota		Chairman		P.O. Box 550	Red Lake MN 56671	10-Aug-17	
Tribal	Santee Sioux Tribal Council		Chairman		108 Spirit Lake Ave West	Niobrara NE 68760	10-Aug-17	
Tribal	Shakopee Mdewakanton Sioux Community of Minnesota		Chairman		2330 Sioux Trail NW	Prior Lake MN 55372	10-Aug-17	
Tribal	Upper Sioux Community of Minnesota		Chairwoman		P.O. Box 147	Granite Falls MN 56241-0147	10-Aug-17	
Tribal	White Earth Reservation Business Committee		Chairman		P.O. Box 418	White Earth MN 56591	10-Aug-17	

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON D.C. 20426
October 11, 2017

OFFICE OF ENERGY PROJECTS

Project No. 2533–000- MN
Brainerd Hydroelectric Project
Brainerd Public Utilities

Reference: Consultation with Tribes for the Brainerd Hydroelectric Project No. 2533

To the Parties Addressed:

The Federal Energy Regulatory Commission (Commission) invites your participation in the relicensing process for the existing Brainerd Hydroelectric Project No. 2533 (Brainerd Project). The 3.54-megawatt Brainerd Project is located on the Mississippi River in the City of Brainerd in Crow Wing County, Minnesota. Brainerd Public Utilities, the licensee for the project, must file a notice of intent and Pre-Application Document by February 28, 2018, and an application for a new license must be filed by February 28, 2021.

It is very important that a Tribe whose interests could be affected by the proposed Brainerd Project participate early in the process so that tribal concerns are addressed. For this reason, please inform us if you have an interest in participating in the relicensing process for the project. In addition, please indicate if you would like to meet with Commission staff to discuss the Commission's licensing process, how your tribe can participate to the fullest extent possible, your interests and concerns in the affected area, and how to establish procedures to ensure appropriate communication between Commission and tribal staffs. The meeting can be limited to Commission and your tribal staff, or can be open to other Tribes, Brainerd Public Utilities, or any other licensing participants.

If at all possible, we would appreciate your response by November 13, 2017. The Commission strongly encourages electronic filing. Please file your response using the Commission's eFiling system at http://www.ferc.gov/docs-filing/efiling.asp. Commenters can submit brief comments up to 6,000 characters, without prior registration, using the eComment system at http://www.ferc.gov/docs-filing/ecomment.asp. You must include your name and contact information at the end of your comments. For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov, (866) 208-3676 (toll free), or (202) 502-8659 (TTY). In lieu of electronic filing, please send a paper copy to: Secretary, Federal Energy

Regulatory Commission, 888 First Street N.E., Washington, D.C. 20426. The first page of any filing should include docket number P-2533-000.

If you have any questions or comments, please contact Laura Washington at (202) 502-6072, or at Laura.Washington@ferc.gov. Ms. Washington will contact you shortly to follow-up on this letter.

Sincerely,

Janet Hutzel, Chief
Midwest Branch
Division of Hydropower Licensing

Addressees:

Warren Swartz, President
Keweenaw Bay Indian Community, Michigan
16429 Beartown Road
Beraga, MI 49908

Faron Jackson, Chairman
Leech Lake Band of the Minnesota Chippewa Tribe, Minnesota
190 Sailstar Drive
Cass Lake, MN 56633

James Williams, Jr., Chairperson
Lac Vieux Desert Band of Lake Superior Chippewa Indians of Michigan
P.O. Box 249
Watersmeet, MI 49969

Melanie Benjamin, Chief Executive
Mille Lacs Band of Ojibwe Tribe
43408 Oodena Drive
Onamia, MN 56633

Kevin Dupuis, President
Minnesota Chippewa Tribe, Minnesota
P.O. Box 217
Cass Lake, MN 56633

Kevin Dupuis, Chairman
Grand Portage Band of the Minnesota Chippewa Tribe
P.O. Box 428
Grand Portage, MN 55605

Kevin Jesvold, President
Upper Sioux Community, Minnesota
P.O. Box 147
Granite Falls, MN 56241-0147

Terrance Tibbits, Chairman
White Earth Band of Minnesota Chippewa Tribe, Minnesota
P.O. Box 418
White Earth, MN 56591

Richard Peterson, Chairman
Red Cliff Band of Lake Superior
Chippewa Indians of Wisconsin
88385 Pike Road Hwy 12
Grand Portage, MN 55605

Chis McGeshick, Chairman
Sokaogon Chippewa Community,
Wisconsin
3051 Sand Lake Road
Crandon, WI 54520

Mark Azure, President
Fort Belknap Indian Community of the
Fort Belknap Reservation of Montana
565 Agency Main Street
Harlem, MT 59526

Robert Blanchard, Chairman
Bad River Band of the Lake Superior
Tribe of Chippewa Indian, Wisconsin
P.O. Box 39
Odanah, WI 54891

Henry Butch St. Germaine, Chairman
Lac du Flambeau Band of Lake Superior
Indians of Wisconsin
P.O. Box 67
Lac du Flambeau, WI 54538

Gary Besaw, Chairman
Menominee Indian Tribe of Wisconsin
P.O. Box 910
Keshena, WI 54135

Kevin Leecy, Chairman
Bois Forte Band of (Nett Lake) of
Minnesota Chippewa Tribe
P.O. Box 16
Nett Lake, MN 55772

Lewis Taylor, President
St. Croix Chippewa Indians of
Wisconsin
24663 Angeline Avenue
P.O. Box 45287
Webster, WI 54893

Bob Komardley, Chairman
Apache Tribe of Oklahoma
P.O. Box 1330
Anadarko, OK 73005

Eddie Hamilton, Governor,
Cheyenne and Arapaho Tribes,
Oklahoma
P.O. Box 67
Concho, OK 73022

Tim Rhodd, Chairperson
Iowa Tribe of Kansas and Nebraska
3345 B Thrasher Rd.
White Cloud, KS 66094

Karen Driver, Chairperson
Fond du Lac Band of Minnesota
Chippewa Tribe
1720 Big Lake Road
Cloquet, MN 55720

Addressees CCed:

Gary F. Loonsfoot, THPO
Keweenaw Bay Indian Community
107 Bear Town Road
Baraga, MI 49908

Amy Burnette, THPO
Leech Lake Band of the Minnesota
Chippewa Tribe
190 Sailstar Drive NE
Cass Lake, MN 56633

Ms. giiwegiizhigookway Martin, THPO
Lac Vieux Desert Band of Lake Superior
Chippewa Indians
PO Box 249
Watersmeet, MI 49969

Natalie Weyaus, THPO
Mille Lacs Band of Ojibwe Tribe
43408 Oodena Drive
Onamia, MN 563259

Cayla Olson, THPO and NAGPRA Rep.
White Earth Nation of Minnesota
Chippewa
Archives
P.O. Box 418
White Earth, MN 56591

Larry Balber, THPO
Red Cliff Band of Lake Superior
Chippewa Indians of Wisconsin
88385 Pike Road Hwy 12
Grand Portage, MN 55605

Melinda Young, THPO
Lac du Flambeau Band of Lake Superior
Indians of Wisconsin
P.O. Box 67
Lac du Flambeau, WI 54538

Edith Leoso, THPO
Bad River Band of the Lake Superior
Tribe of Chippewa Indian, Wisconsin
P.O. Box 67
Odanah, WI 54891

Chrystal Lightfood, Cultural Officer
Apache Tribe of Oklahoma
P.O. Box 1330
Anadarko, OK 73005

Samantha Odegard, THPO
Upper Sioux Community, Minnesota
P.O. Box 147
Granite Falls, MN 56241-0147

Marcus Amnesmaki, THPO
Fond du Lac Band of Minnesota
Chippewa Tribe
1720 Big Lake Road
Cloquet, MN 55720

Maryann Gagnon, THPO
Grand Portage Band of the Minnesota
Chippewa Tribe
P.O. Box 428
Grand Portage, MN 55605

Telephone Memo

To: Public Files
From: Laura Washington
Date: December 12, 2017
Dockets: P-2533-000
Project: Brainerd Hydroelectric Project

Subject: Consultation with Tribes for the Brainerd Hydroelectric Project No. 2533

On October 11, 2017, Laura Washington, staff of the Division of Hydropower Licensing with the Federal Energy Regulatory Commission (Commission) issued a letter initiating Tribal consultation for the relicensing process for the existing Brainerd Hydroelectric Project No. 2533 (Brainerd Project). Ms. Washington followed up with the addressed Tribes via email and telephone on November 20, 2017 and November 21, 2017 to determine if any would be interested in participating in consultation for the Brainerd Project.

On October 17, 2017, Virginia Richey, Tribal Historic Preservation Officer (THPO) for the Cheyenne and Arapaho Tribes, Oklahoma replied via mailed letter, received on October 17, 2017 that there were no properties of interest in the project area.

On November 20, 2017, Ms. Washington spoke with Bill Latady, THPO for the Bois Forte Band of the Minnesota Chippewa Tribe Community. Mr. Latady stated that he was new to the position and requested that I resend the email with the original Tribal Consultation Letter attached. I resent the email with attachment and received a response (in letter form, attached to the email) stating there are currently no properties of interest in for the Bois Forte tribe in the Brainerd.

The following tribes were contacted for follow-up via email and/or phone and did not respond: Bad River Band of the Lake Superior Tribe of Chippewa Indians of the Bad River Reservation, Wisconsin, Lac du Flambeau Band of Lake Superior Chippewa Indians of the Lac du Flambeau Reservation of Wisconsin, Lac du Flambeau Band of Lake Superior Chippewa Indians of the Lac du Flambeau Reservation of Wisconsin, Apache Tribe of Oklahoma, Cheyenne and Arapaho Tribes, Oklahoma, Iowa Tribe of Kansas and Nebraska, Upper Sioux Community - Minnesota, Fond du Lac Band of the Minnesota Chippewa Tribe, Grand Portage Band of the Minnesota Chippewa Tribe Keweenaw Bay Indian Community, Michigan, Lac Vieux Desert Band of Lake Superior Chippewa Indians of Michigan, Leech Lake Band of the Minnesota Chippewa Tribe Mille Lacs Band of Ojibwe (The Mille Lacs Band of the Minnesota Chippewa Tribe Mille Lacs Band of Ojibwe), Minnesota Chippewa Tribe, Red Cliff Band of Lake Superior Chippewa Indians of Wisconsin, Sokaogon Chippewa Community, Wisconsin

White Earth Band of the Minnesota Chippewa Tribe, Fort Belknap Indian Community of the Fort Belknap Reservation of Montana, Menominee Indian Tribe of Wisconsin and the St Croix Chippewa Indians of Wisconsin.

Bois Forte

TRIBAL HISTORIC PRESERVATION OFFICE

November 20, 2017

Laura Washington
Office of Energy Projects – Hydropower Licensing
Federal Energy Regulatory Commission
888 1st street NE
Washington, DC 20426

RE: Docket No. P-2533-000 Brainerd Hydroelectric Project No. 2533

Dear Laura;

The Bois Forte Tribal Historic Preservation Office (THPO) has reviewed the above project where the existing Brainerd Hydroelectric Project No. 2533 is undergoing relicensing through the Federal Energy Commission.

THPO staff reviewed our files and is not aware of cultural or religious places of interest to the Bois Forte Band within project (APE). However should another Band or Tribe indicate there may be effects to historic properties, Bois Forte reserves the right to be re-enter consultation.

Thank you for the opportunity to comment. Should you have any questions, please do not hesitate to contact me at 218-753-6017 or blatady@boisforte-nsn.gov.

Sincerely,
Bill Latady

Bev Latady
Tribal Historic Preservation Officer

1500 Bois Forte Rd | Tower, MN 55790 | 218-753-6017 | FAX 218-753-6026

TRIBAL HISTORIC PRESERVATION
P.O. BOX 167
CONCHO, OKLAHOMA 73022

1-800-247-4612 Toll Free
405-422-7484 Telephone

October 17, 2017
THPO ID # 1174

Federal Energy Regulatory Commission
Janet Hutzel
888 First Street N.E.
Washington, D.C. 20426

RE: Consultation with Tribes for the Brainerd Hydroelectric Project No. 2533 Docket No. P-2533-000

On behalf of the Tribal Historic Preservation Office of the Cheyenne and Arapaho Tribes, thank you for the notice of the referenced project. I have reviewed your Consultation request under Section 106 of the National Historic Preservation Act regarding the project proposal and commented as follows:

At this time, it is determined to be categorized as No Properties; however, if at any time during the project implementation inadvertent discoveries are made that reflect evidence of human remains, ceremonial or cultural objects, historic sites such as stone rings, burial mounds, village or battlefield artifacts, please cease work in area of discovery and notify the THPO Office within 72 hours.

In addition, if inadvertent discoveries are made; pursuant to Title 36 Code of Federal Regulation Part 800.13, as amended; you will also be required to make arrangements for a professional archaeologist to visit the site of discovery and assess the potential significance of any artifacts or features that were unearth. If needed, we will contact the Tribes NAGPRA representatives.

Please contact me at (405) 422-7484 or vrichey@c-a-tribes.org, if you have any questions or concerns. Alternate contact is Micah Demery; she can be reached directly at (405) 422-7416 or mdemery@c-a-tribes.org. Thank you again for your notification!

Best Regards,

Virginia Richey
Tribal Historic Preservation Office/THPO

Document Content(s)

Brainerd Hydroelectric Project Relicensing

Summary of Agency Scoping Responses

Federal Agencies

U.S. Army Corps of Engineers
U.S. Environmental Protection Agency

Tribal Entities

Bois Forte Band of Chippewa Tribal Historic Preservation Office (in response to FERC mailing)
Cheyenne and Arapaho Tribes Tribal Historic Preservation Office (in response to FERC mailing)
Leech Lake Band of Ojibwe Tribal Historic Preservation Office

State Agencies

Minnesota Attorney General
State Historic Preservation Office of Minnesota

Local Agencies

None received

Special Interest Groups

None received

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

SEP 0 5 2017

Programs and Project Management Division
Project Management Branch (PM-A)

SUBJECT: Brainerd Hydroelectric Project Relicensing, Brainerd, Minnesota

Shanna Braun
Senior Environmental Scientist
Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Dear Ms. Braun:

We are replying to your August 11, 2017 letter requesting views and comments on your project to renew the Federal Energy Regulatory Commission license for the Brainerd Dam.

The project as outlined in your letter will not affect any existing U.S. Army Corps of Engineers civil works projects, and we do not anticipate future impacts to any Corps civil works projects by the St. Paul District.

The proposed project is located within the St. Paul District's Regulatory jurisdiction. We are forwarding a copy of your letter to Mr. Chad Konickson at the St. Paul Regulatory office, Corps of Engineers, 180 5th Street East, St. Paul, Minnesota 55101-1678, concerning permit requirements and regulatory concurrence for the St. Paul District. He can also be reached directly at 651-290-5364.

Please note that this letter does not eliminate the need for state, local, or other authorizations, such as those of the Minnesota Department of Natural Resources.

Sincerely,

Christopher R. Erickson, PE, PMP
Assistant Deputy for Programs and
Project Management

cc:
CEMVP-OP-R/Konickson

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

AUG 30 2017

REPLY TO THE ATTENTION OF:

Shanna Braun
Barr Engineering
4300 MarketPointe Drive
Suite 200
Minneapolis, Minnesota 55435

RE: Request for early coordination: proposed Brainerd Dam hydroelectric license renewal; Brainerd, Crow Wing County, Minnesota

Dear Ms. Braun:

The U.S. Environmental Protection Agency received correspondence from Barr Engineering Co. (Barr) dated August 11, 2017, regarding the proposed relicensing of the Brainerd Dam hydroelectric license by the Federal Energy Regulatory Commission (FERC). Barr Engineering provided the same correspondence to both EPA Region 5 and to EPA Headquarters via a letter addressed to the Administrator. This letter provides EPA's early comments, pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act.

Barr is assisting Brainerd Public Utilities (BPU) with developing application materials to renew the FERC hydroelectric license for the Brainerd Dam (the Project). The Project is a 3,542.5 kilowatt facility located on the Mississippi River in the City of Brainerd, Minnesota. It consists of a short left embankment, a powerhouse, a slide gate section, a bascule (crest) gate section, a single steel tainter gate, and a right embankment.

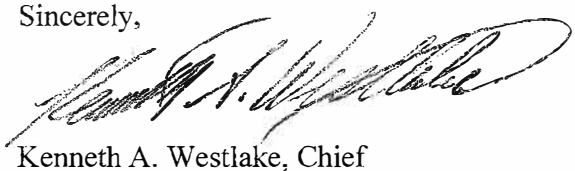
The Project's current FERC license will expire on February 28, 2023, and a new application will need to be filed by February 28, 2021. The FERC relicensing process will take approximately five years and will authorize the Project to operate as a hydroelectric facility for the next 30 to 50 years.

Under FERC regulations, Barr is assisting BPU with development of a Pre-Application Document (PAD) to provide FERC, other agencies, and stakeholders with available information pertaining to the Project. This document will provide information about the Project, environmental resources in the surrounding area, and BPU's plans for operation under a new license. This information will be used to identify issues and information needs regarding the licensing of the project, and to develop preliminary study plans where information gaps may exist. Information gathered for the PAD will be used throughout the licensing process to prepare documents analyzing Project effects. This questionnaire will help Barr/BPU to identify sources of existing, relevant, and available information.

Based on the information provided, EPA offers the following comments for consideration. Our comments are discussed in greater detail in the questionnaire enclosure to this letter.

Thank you for the opportunity to review and comment upon the Project. In the future, the more information you provide to EPA at the scoping stage, the more substantive comments our agency can provide. We are available to discuss these comments with you in further detail if requested. We look forward to reviewing future NEPA documents prepared for this project. If you have any questions about this letter, please contact the lead NEPA reviewer for this project, Ms. Liz Pelloso, at 312-886-7425 or via email at pelloso.elizabeth@epa.gov.

Sincerely,



Kenneth A. Westlake, Chief
NEPA Implementation Section
Office of Enforcement and Compliance Assurance

Enclosure

cc (via email, with enclosure):
Teodor Strat, FERC (teodor.strat@ferc.gov)

8/30/2017

Brainerd Dam
Brainerd, Crow Wing County, MN
FERC Project No. P-2533

Pre-Application Document Information Questionnaire for FERC Licensing

1. Contact Information for person completing the questionnaire:

Name & Title:	Liz Pelloso, wetland/environmental scientist
Organization:	USEPA Region 5 – NEPA Implementation Section
Address:	77 W Jackson Blvd (E19-J)
	Chicago, IL 60604
Phone:	312-886-7425
Email Address:	pelloso.elizabeth@epa.gov

2. Do you know of any reasonably available materials or information related to the Project or the Project's environment?

☒ Yes *(If yes, please complete 2a. thru 2e.)* ☐ No *(If no, please go to 3.)*

a. Please indicate the specific resource area(s) for which you have information:

- ☐ Geology and soils
- ☒ Water resources
- ☒ Fish and aquatic resources
- ☐ Wildlife and botanical resources
- ☐ Wetlands, riparian, and littoral habitat
- ☐ Rare, threatened & endangered species
- ☐ Recreation and land use
- ☐ Aesthetic resources
- ☐ Cultural resources
- ☐ Socio-economic resources
- ☐ Tribal resources
- ☒ Other resource information

b. Please briefly describe the information or list available documents: *(Additional information may be provided on a separate page.)*

- The presence of U.S. Geological Survey National Water Information System monitors in the project vicinity;
- The Mississippi River both upstream and downstream of the Brainerd Dam is listed as impaired (not meeting water quality standards) on the Clean Water Act Section 303(d) list of impaired water bodies in Minnesota – several impairments exist;

c. Where and how can Barr obtain this information?

EPA recommends you access and use several of our databases to obtain Environmental information pertaining to the project area:

- NEPAssist: https://www.epa.gov/nepa/nepassist
- WATERS: https://www.epa.gov/waterdata/waters-watershed-assessment-tracking-environmental-results-system
- Envirofacts: https://www3.epa.gov/enviro/
- EJSCREEN: https://www.epa.gov/ejscreen
- Enviromapper: https://www.epa.gov/emefdata/em4ef.home
- Clean Water Act Section 303(d) impaired waters: https://www.epa.gov/exposure-assessment-models/303d-listed-impaired-waters
- NAAQS: http://www.epa.state.oh.us/dapc/general/naaqs.aspx and https://www.epa.gov/green-book

d. Please provide the names of other persons in your organization whom you wish to designate for a potential follow-up contact by Barr's representative for the resource area(s) checked above. If you know of others who are not part of your organization but who may have relevant information, please provide their name(s) and contact information as well. ***(Additional contacts may be provided on a separate page.)***

Representative Contact Information

Name & Title:	Ken Westlake, Chief, NEPA Implementation Section
Organization:	USEPA Region 5 (E-19J)
Address:	77 W Jackson Blvd
	Chicago, IL 60604
Phone:	312-886-2910
Email Address:	westlake.kenneth@epa.gov

Other Contact Information

Name & Title:	Tamara Smith
Organization:	US Fish and Wildlife Service
Address:	4101 American Boulevard East
	Bloomington, MN 55425
Phone:	952-252-0092 ext. 219
Email Address:	Tamara_Smith@fws.gov

e. Based on the resources listed in 2a, are you aware of any specific issues pertaining to the identified resource area(s) such as water quality, wildlife habitat, endangered species or cultural resources that may be affected by the Project operations? ***(Additional information may be provided on a separate page.)***

☒ Yes *(Please list specific issues below)* ☐ No

Resource Area	**Specific issue**
The river is already listed as impaired.	The project should not further degrade water quality.

3. Does EPA participate in the Brainerd Dam licensing process?
   ☒ Yes ☐ No

4. Comments on the Project, the Pre-Application Document, and/or FERC licensing are noted below:

EPA will participate by reviewing NEPA documents required to be completed by FERC. Please send future NEPA documents to our office.

While this request was sent directly to the NEPA program in EPA Region 5, a second, duplicate request for information was sent to EPA Headquarters, and was addressed to the EPA Administrator. Sending a second, duplicate copy to the Administrator of EPA at the Headquarters Office caused a delay in our response, as coordination between EPA Headquarters and our Region 5 office in Chicago had to occur. For all future requests of this nature for projects in Minnesota, Wisconsin, Illinois, Indiana, Michigan, or Ohio, please send them only to the EPA Region 5 office in Chicago, to the attention of Mr. Ken Westlake in the NEPA Implementation Program.

Bois Forte

TRIBAL HISTORIC PRESERVATION OFFICE

November 20, 2017

Laura Washington
Office of Energy Projects – Hydropower Licensing
Federal Energy Regulatory Commission
888 1st street NE
Washington, DC 20426

RE: Docket No. P-2533-000 Brainerd Hydroelectric Project No. 2533

Dear Laura;

The Bois Forte Tribal Historic Preservation Office (THPO) has reviewed the above project where the existing Brainerd Hydroelectric Project No. 2533 is undergoing relicensing through the Federal Energy Commission.

THPO staff reviewed our files and is not aware of cultural or religious places of interest to the Bois Forte Band within project (APE). However should another Band or Tribe indicate there may be effects to historic properties, Bois Forte reserves the right to be re-enter consultation.

Thank you for the opportunity to comment. Should you have any questions, please do not hesitate to contact me at 218-753-6017 or blatady@boisforte-nsn.gov.

Sincerely,
Bill Latady

Bev Latady
Tribal Historic Preservation Officer

1500 Bois Forte Rd | Tower, MN 55790 | 218-753-6017 | FAX 218-753-6026

TRIBAL HISTORIC PRESERVATION
P.O. BOX 167
CONCHO, OKLAHOMA 73022

1-800-247-4612 Toll Free
405-422-7484 Telephone

October 17, 2017
THPO ID # 1174

Federal Energy Regulatory Commission
Janet Hutzel
888 First Street N.E.
Washington, D.C. 20426

RE: Consultation with Tribes for the Brainerd Hydroelectric Project No. 2533 Docket No. P-2533-000

On behalf of the Tribal Historic Preservation Office of the Cheyenne and Arapaho Tribes, thank you for the notice of the referenced project. I have reviewed your Consultation request under Section 106 of the National Historic Preservation Act regarding the project proposal and commented as follows:

At this time, it is determined to be categorized as **No Properties**; however, if at any time during the project implementation inadvertent discoveries are made that reflect evidence of human remains, ceremonial or cultural objects, historic sites such as stone rings, burial mounds, village or battlefield artifacts, please cease work in area of discovery and notify the THPO Office within 72 hours.

In addition, if inadvertent discoveries are made; pursuant to Title 36 Code of Federal Regulation Part 800.13, as amended; you will also be required to make arrangements for a professional archaeologist to visit the site of discovery and assess the potential significance of any artifacts or features that were unearth. If needed, we will contact the Tribes NAGPRA representatives.

Please contact me at (405) 422-7484 or vrichey@c-a-tribes.org, if you have any questions or concerns. Alternate contact is Micah Demery; she can be reached directly at (405) 422-7416 or mdemery@c-a-tribes.org. Thank you again for your notification!

Best Regards,

Virginia Richey
Tribal Historic Preservation Office/THPO

LEECH LAKE BAND OF OJIBWE
Tribal Historic Preservation Office

Amy Burnette, Tribal Historic Preservation Officer
Sheila Gotchie, Office Manager

August 16, 2017

Barr Engineering, Co.
Attn: Shanna Braun, Senior Environmental Scientist
4300 MarketPoint Drive, Suite 200
Minneapolis, MN 55435

RE: Proposed Brainerd Hydroelectric Project Relicensing
Brainerd, Crow Wing County, Minnesota
LL THPO No. 17-304-NCRI

Dear Ms. Braun,

Thank you for the opportunity to comment on the above-referenced project. It has been reviewed pursuant to the responsibilities given the Tribal Historic Preservation Officer (THPO) by the National Historic Preservation Act of 1966, as amended in 1992 and the Procedures of the Advisory Council on Historic Preservation (38CFR800).

I have reviewed the documentation; after careful consideration of our records, I have determined that the Leech Lake Band of Ojibwe does not have any known recorded sites of religious or cultural importance in these areas.

Should any human remains or suspected human remains be encountered, all work shall cease and the following personnel should be notified immediately in this order: County Sheriff's Office and Office of the State Archaeologist. If any human remains or culturally affiliated objects are inadvertently discovered this will prompt the process to which the Band will become informed.

Please note: The above determination does not "exempt" future projects from Section 106 review. In the event of any other tribe notifying us of concerns for a specific project, we may re-enter into the consultation process.

You may contact me at (218) 335-2940 if you have questions regarding our review of this project. Please refer to the LL-THPO Number as stated above in all correspondence with this project.

Respectfully submitted,

Amy Burnette
Tribal Historic Preservation Officer

STATE OF MINNESOTA

OFFICE OF THE ATTORNEY GENERAL

SUITE 900
445 MINNESOTA STREET
ST. PAUL, MN 55101-2127
TELEPHONE: (651) 297-1075

August 22, 2017

Ms. Shanna Braun
Senior Environmental Scientist
Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Dear Ms. Braun:

I thank you for your correspondence received on August 14, 2017.

You state that Barr Engineering Co. ("Barr") is assisting Brainerd Public Utilities ("BPU") with developing application materials to renew BPU's Federal Energy Regulatory Commission ("FERC") license for the Brainerd Dam ("Project"). You further state that BPU's current FERC license for the Project will expire on February 28, 2023, and that BPU will need to submit a license renewal application by February 28, 2021. You indicate that Barr's preparation of a Pre-Application Document for FERC seeks to provide information about the Project, including environmental resources in the area surrounding the Project and BPU's plans for operation under a new license. You report that in order to ensure that social and environmental resources in the Project area are properly analyzed, Barr is soliciting comments from those that own, manage, oversee or otherwise value property or other resources in the Project vicinity.

I appreciate your request for written comments regarding the Project. I can tell you the following, which I hope will be helpful:

To the extent that you have not yet done so, I recommend that you seek written comments from applicable state agencies that may have an interest in BPU's FERC license renewal process. While the list below may not be exhaustive, I recommend that you solicit comments from the following agencies, which you may reach as follows:

Minnesota Department of Natural Resources
500 Lafayette Road
St. Paul, MN 55155
Phone: (651) 296-6157

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155
Phone: (651) 757-2256

Minnesota Department of Health
P.O. Box 64975
St. Paul, MN 55164
Phone: (651) 201-5000

Minnesota Department of Transportation
395 John Ireland Blvd.
St. Paul, MN 55155
Phone: (651) 234-7681

Minnesota Department of Administration
50 Sherburne Avenue
St. Paul, MN 55155
Phone: (651) 201-2555

Minnesota Public Utilities Commission
121 Seventh Place East, Suite 350
St. Paul, MN 55101
Phone: (651) 296-0406

I thank you again for your correspondence.

Sincerely,

KAREN D. OLSON
Deputy Attorney General

(651) 757-1370 (Voice)
(651) 297-4139 (Fax)

MINNESOTA HISTORICAL SOCIETY
STATE HISTORIC PRESERVATION OFFICE

September 13, 2017

Shanna Braun
Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis MN 55435

RE: Brainerd Hydroelectric Project Relicensing
Crow Wing County
SHPO Number: 20117-2828

Dear Ms. Braun,

Thank you for the opportunity comment on the above project. It has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and implementing federal regulations at 36 CFR 800.

The Brainerd Hydroelectric Project (Project) was originally reviewed by our office in consultation with the Federal Energy Regulatory Commission (FERC) at the time that Potlach Corporation applied for relicensing in the early 1990s (FERC Project No. 2533). As a result of this review, and in consultation with FERC, several cultural resources studies were completed, a Section 106 Programmatic Agreement was executed in 1992, and a Cultural Resources Management Plan (1995) for the Project was implemented. These documents identified historic properties within the area of potential effect (APE) for the undertaking and established a process for the management of historic resources throughout the period of the license. Historic properties identified within in the Project's APE include numerous archaeological sites as well as the hydroelectric generating facility historically known as the **Northwest Paper Company Crow Wing Mill Grinder Room**, all of which have been determined eligible for listing in the National Register of Historic Places (NRHP).

We have completed a review of your letter dated 11 August 2017 and it is our understanding that your company is assisting Brainerd Public Utilities (BPU) with development of a Pre-Application Document for FERC in anticipation of eventually filing an application for renewal of the facility's hydroelectric license.

Pursuant to 36 CFR Part 800, it is the federal agency's responsibility to establish the undertaking subject to review and to initiate the Section 106 process. Pursuant to 36 CFR Part 800.4-6, in consultation with our office and others, including Native American tribes, the agency will need to determine and document the area of potential effect (APE) for the federal undertaking, to identify and evaluate historic properties that may be affected by the proposed federal undertaking including re-evaluating properties previously determined eligible or ineligible that, due to the passage of time, may be considered incomplete by today's standards, to assess adverse effects to historic properties, if any are located within the APE for the undertaking, and resolve adverse effects, if any, through avoidance, minimization, or mitigation.

We look forward to continuing consultation on this project. Please feel free to contact me if you have any questions regarding our review. I can be reached at (651) 259-3456 or by e-mail at sarah.beimers@mnhs.org.

Sincerely,

Sarah J. Beimers

Sarah J. Beimers, Manager
Government Programs & Compliance