

VOLUME I

PRE-APPLICATION DOCUMENT

WEST CANADA CREEK HYDROELECTRIC PROJECT
FERC No. 2701-NY

Prepared for:

Erie Boulevard Hydropower, L.P.
Fulton, New York

Prepared by:

Kleinschmidt

Pittsfield, Maine
www.KleinschmidtGroup.com

February 2018

**WEST CANADA CREEK HYDROELECTRIC PROJECT
FERC No. 2701**

PRE-APPLICATION DOCUMENT

TABLE OF CONTENTS

1.0	INTRODUCTION AND BACKGROUND	1-1
2.0	PURPOSE OF THE PRE-APPLICATION DOCUMENT.....	2-1
3.0	PROCESS PLAN, SCHEDULE, AND PROTOCOLS	3-1
3.1	OVERALL PROCESS PLAN AND SCHEDULE	3-1
3.2	SCOPING MEETING AND SITE VISIT.....	3-3
3.3	ILP PARTICIPATION	3-4
3.4	COMMUNICATION AND DOCUMENT DISTRIBUTION	3-4
3.5	RESTRICTED DOCUMENTS.....	3-5
3.6	FERC COMMUNICATION.....	3-5
4.0	PROJECT LOCATION, FACILITIES, AND OPERATIONS	4-1
4.1	AUTHORIZED AGENT	4-1
4.2	PROJECT LOCATION	4-1
4.3	PROSPECT DEVELOPMENT.....	4-4
4.3.1	DAM.....	4-4
4.3.2	INTAKE AND CONVEYANCE SYSTEM.....	4-5
4.3.3	POWERHOUSE	4-5
4.3.4	IMPOUNDMENT	4-5
4.3.5	BYPASS REACH	4-6
4.3.6	APPURTENANCES	4-6
4.3.7	TRANSFORMERS AND SWITCHYARD.....	4-7
4.4	TRENTON DEVELOPMENT	4-8
4.4.1	DAM.....	4-8
4.4.2	INTAKE AND CONVEYANCE SYSTEM.....	4-9
4.4.3	POWERHOUSES.....	4-9
4.4.4	IMPOUNDMENT	4-10
4.4.5	BYPASS REACH.....	4-10
4.4.6	APPURTENANCES	4-10
4.4.7	TRANSFORMERS AND SWITCHYARD.....	4-10
4.5	DESCRIPTION OF PROJECT OPERATIONS.....	4-12
4.5.1	OPERATIONS DURING A NORMAL YEAR.....	4-15
4.5.1.1	PROSPECT DEVELOPMENT.....	4-15
4.5.1.2	TRENTON DEVELOPMENT	4-15
4.5.2	OPERATIONS DURING HIGH FLOW AND ADVERSE FLOW PERIODS.....	4-16
4.5.2.1	PROSPECT DEVELOPMENT.....	4-16
4.5.2.2	TRENTON DEVELOPMENT	4-16
4.6	GRID INTERCONNECTION	4-17
4.7	GENERATION AND OUTFLOW RECORDS	4-17
4.8	CURRENT LICENSE REQUIREMENTS AND COMPLIANCE HISTORY	4-19

4.8.1	CURRENT LICENSE REQUIREMENTS	4-20
4.8.2	COMPLIANCE HISTORY	4-20
4.9	CURRENT NET INVESTMENT	4-21
4.10	POTENTIAL FOR NEW PROJECT FACILITIES OR CHANGES IN PROJECT OPERATION	4-21
5.0	DESCRIPTION OF EXISTING ENVIRONMENT AND RESOURCE IMPACTS	5-1
5.1	DESCRIPTION OF THE RIVER BASIN	5-1
5.2	MAJOR LAND AND WATER USES	5-2
5.2.1	DAMS WITHIN THE BASIN	5-7
5.2.2	TRIBUTARY RIVERS AND STREAMS	5-8
5.3	GEOLOGY	5-8
5.3.1	TOPOGRAPHY	5-8
5.3.2	GEOLOGICAL FEATURES	5-8
5.3.3	PROJECT AREA SOILS	5-10
5.3.4	RESERVOIR SHORELINE AND STREAMBANKS	5-13
5.3.4.1	PROSPECT DEVELOPMENT	5-13
5.3.4.2	TRENTON DEVELOPMENT	5-13
5.3.5	SEISMICITY	5-13
5.4	WATER RESOURCES	5-13
5.4.1	DRAINAGE AREA	5-13
5.4.2	STREAM FLOW CHARACTERISTICS	5-14
5.4.3	FLOW DURATION CURVES	5-15
5.4.4	EXISTING AND PROPOSED USES OF PROJECT WATERS	5-15
5.4.5	EXISTING INSTREAM FLOW USES	5-16
5.4.6	WATER QUALITY STANDARDS	5-16
5.4.7	EXISTING WATER QUALITY DATA	5-18
5.4.8	RESERVOIR DATA	5-21
5.4.9	DOWNSTREAM REACH GRADIENTS	5-21
5.5	FISH AND AQUATIC RESOURCES	5-21
5.5.1	EXISTING FISH AND AQUATIC RESOURCES	5-21
5.5.2	STOCKED FISHERY	5-24
5.5.3	ESSENTIAL FISH HABITAT	5-25
5.5.4	DOWNSTREAM HABITAT AND MINIMUM FLOW ASSESSMENT	5-25
5.5.5	FISHING REGULATIONS	5-27
5.5.6	BENTHIC MACROINVERTEBRATES	5-27
5.5.7	FRESHWATER MUSSELS	5-28
5.6	WILDLIFE AND BOTANICAL RESOURCES	5-28
5.6.1	BOTANICAL RESOURCES HABITAT AND SPECIES	5-28
5.6.2	INVASIVE SPECIES	5-30
5.6.3	TERRESTRIAL WILDLIFE RESOURCES	5-31
5.6.3.1	MAMMALS	5-31
5.6.3.2	BIRDS	5-32
5.6.3.3	HERPTILES	5-33
5.7	WETLANDS, RIPARIAN, AND LITTORAL RESOURCES	5-35
5.7.1	WETLAND, RIPARIAN, AND LITTORAL HABITATS	5-35

5.7.2	WETLAND AND RIPARIAN WILDLIFE.....	5-38
5.8	RARE, THREATENED, AND ENDANGERED SPECIES	5-38
5.8.1	FEDERAL AND STATE LISTED SPECIES IN PROJECT VICINITY	5-38
5.8.2	TERRESTRIAL HABITAT REQUIREMENTS	5-43
5.8.3	CRITICAL HABITAT	5-43
5.9	RECREATION AND LAND USE	5-44
5.9.1	REGIONAL RECREATION OPPORTUNITIES	5-44
5.9.2	PROJECT RECREATION FACILITIES AND OPPORTUNITIES	5-46
5.9.2.1	PROSPECT DEVELOPMENT	5-46
5.9.2.2	TRENTON DEVELOPMENT	5-49
5.9.3	DOWNSTREAM RECREATION OPPORTUNITIES	5-54
5.9.4	CURRENT RECREATION USE LEVELS	5-56
5.9.5	PUBLIC SAFETY MEASURES	5-56
5.9.6	SPECIALLY DESIGNATED RECREATION AREAS PROXIMAL TO THE PROJECT	5-59
5.9.6.1	NATIONAL WILD AND SCENIC RIVERS	5-59
5.9.6.2	NEW YORK STATE DESIGNATION	5-59
5.9.6.3	DESIGNATED NATIONAL TRAILS OR WILDERNESS AREAS	5-60
5.9.7	REGIONAL RECREATION NEEDS IDENTIFIED IN MANAGEMENT PLANS	5-60
5.9.8	LAND USE AND MANAGEMENT WITHIN AND ADJACENT TO THE PROJECT BOUNDARY	5-61
5.9.9	EXISTING PROJECT SHORELINE MANAGEMENT POLICIES	5-63
5.9.10	EXISTING SHORELINE BUFFER ZONES WITHIN PROJECT BOUNDARY	5-63
5.10	AESTHETIC RESOURCES	5-64
5.10.1	VISUAL CHARACTER OF PROJECT LANDS AND WATERS	5-64
5.10.2	OTHER SCENIC ATTRACTIONS	5-72
5.11	CULTURAL RESOURCES	5-73
5.11.1	PREHISTORIC OVERVIEW	5-73
5.11.2	HISTORIC BACKGROUND	5-73
5.11.3	HISTORICAL AND ARCHAEOLOGICAL SITES IN THE PROJECT VICINITY	5-74
5.11.3.1	NEW YORK STATE BARGE CANAL HISTORIC DISTRICT	5-75
5.11.3.2	TRENTON STATION	5-76
5.11.4	PRIOR CULTURAL RESOURCE INVESTIGATIONS	5-77
5.12	SOCIOECONOMIC RESOURCES	5-77
5.13	TRIBAL RESOURCES	5-80
6.0	PRELIMINARY ISSUES, PROJECT EFFECTS, AND POTENTIAL STUDIES LIST	6-1
6.1	ISSUES PERTAINING TO THE IDENTIFIED RESOURCES	6-1
6.1.1	GEOLOGY AND SOILS	6-2
6.1.2	WATER RESOURCES	6-2
6.1.3	FISH AND AQUATIC RESOURCES	6-3
6.1.4	WILDLIFE AND BOTANICAL RESOURCES	6-3
6.1.5	WETLANDS, RIPARIAN, AND LITTORAL HABITAT	6-3

6.1.6	RARE, THREATENED, AND ENDANGERED SPECIES	6-4
6.1.7	RECREATION AND LAND USE	6-4
6.1.8	AESTHETIC RESOURCES	6-4
6.1.9	CULTURAL RESOURCES	6-4
6.1.10	SOCIOECONOMIC RESOURCES	6-5
6.1.11	TRIBAL RESOURCES	6-5
6.2	POTENTIAL STUDIES AND INFORMATION GATHERING.....	6-5
6.2.1	PROPOSED STUDIES.....	6-5
6.2.2	STUDY REQUESTS	6-6
7.0	RELEVANT COMPREHENSIVE MANAGEMENT PLANS	7-1
7.1	COMPREHENSIVE WATERWAY PLANS.....	7-1
7.2	RELEVANT RESOURCE MANAGEMENT PLANS.....	7-2
8.0	LITERATURE AND EXISTING INFORMATION SOURCES CITED	8-1

LIST OF TABLES

TABLE 3-1	RELICENSING PROCESS PLAN AND SCHEDULE	3-1
TABLE 4-1	PROSPECT DEVELOPMENT PROJECT COMPONENTS LIST	4-6
TABLE 4-2	TRENTON DEVELOPMENT PROJECT COMPONENTS LIST	4-11
TABLE 4-3	PROSPECT DEVELOPMENT HISTORIC GROSS MONTHLY GENERATION 2013-2017 (MWH).....	4-18
TABLE 4-4	TRENTON DEVELOPMENT HISTORIC GROSS MONTHLY GENERATION 2013-2017 (MWH).....	4-18
TABLE 4-5	WEST CANADA CREEK PROJECT HISTORIC GROSS MONTHLY GENERATION 2013-2017 (MWH).....	4-19
TABLE 5-1	SUMMARY OF LAND USE WITHIN THE WEST CANADA CREEK BASIN	5-3
TABLE 5-2	SUMMARY OF LAND USE WITHIN 1,000 FEET OF THE WEST CANADA CREEK PROJECT.....	5-7
TABLE 5-3	SOILS MAP UNIT LEGEND	5-12
TABLE 5-4	PROSPECT DEVELOPMENT MONTHLY AVERAGE FLOWS (CFS) (PERIOD 1997-2017)	5-14
TABLE 5-5	TRENTON DEVELOPMENT MONTHLY AVERAGE FLOWS (CFS) (PERIOD 1997-2017)	5-15
TABLE 5-6	APPLICABLE WATER QUALITY CLASSIFICATIONS.....	5-17
TABLE 5-7	APPLICABLE WATER QUALITY STANDARDS	5-18
TABLE 5-8	PROSPECT AND TRENTON DEVELOPMENT RESERVOIR DATA.....	5-21
TABLE 5-9	FISH SPECIES IN WEST CANADA CREEK FROM PROSPECT RESERVOIR TO THE MOHAWK RIVER	5-23
TABLE 5-10	NYSDEC TROUT STOCKING DATA FROM 2011 TO 2017 FOR WEST CANADA CREEK	5-24

TABLE 5-11	LIST OF POTENTIAL BOTANICAL SPECIES IN PROJECT VICINITY	5-29
TABLE 5-12	LIST OF POTENTIAL MAMMALS IN PROJECT VICINITY	5-31
TABLE 5-13	LIST OF POTENTIAL BIRDS IN PROJECT VICINITY	5-32
TABLE 5-14	LIST OF POTENTIAL HERPTILES IN PROJECT VICINITY	5-34
TABLE 5-15	INVENTORY OF NWI WETLANDS WITHIN OR ADJACENT TO THE PROJECT	5-36
TABLE 5-16	FEDERAL LIST OF MIGRATORY SPECIES OF CONCERN THAT MAY OCCUR IN THE PROJECT VICINITY	5-39
TABLE 5-17	HISTORICALLY STATE LISTED THREATENED, AND ENDANGERED PLANTS IN THE PROJECT VICINITY	5-40
TABLE 5-18	STATE LISTED THREATENED, AND ENDANGERED SPECIES IN HERKIMER AND ONEIDA COUNTIES	5-41
TABLE 5-19	POPULATION IN TOWNS SURROUNDING THE PROJECT AREA.....	5-78
TABLE 5-20	SIGNIFICANT INDUSTRIES IN MOHAWK VALLEY REGION (2014)	5-79
TABLE 5-21	HERKIMER AND ONEIDA COUNTIES HIGHER EDUCATION INSTITUTIONS	5-79

LIST OF FIGURES

FIGURE 4-1	WEST CANADA CREEK PROJECT LOCATION	4-3
FIGURE 5-1	KEY FEATURES IN THE VICINITY OF THE WEST CANADA CREEK PROJECT	5-4
FIGURE 5-2	WEST CANADA CREEK BASIN LAND USE CLASSIFICATIONS	5-5
FIGURE 5-3	LAND USE CLASSIFICATIONS WITHIN 1,000 FEET OF THE WEST CANADA CREEK PROJECT.....	5-6
FIGURE 5-4	WEST CANADA CREEK WATERSHED AND TRIBUTARIES	5-9
FIGURE 5-5	PROJECT AREA SOILS.....	5-11
FIGURE 5-6	NWI WETLANDS NEAR THE WEST CANADA CREEK PROJECT.....	5-37
FIGURE 5-7	PROJECT RECREATION FACILITIES	5-47
FIGURE 5-8	TRENTON DEVELOPMENT RECREATION TRAILS.....	5-50
FIGURE 5-9	DOWNSTREAM RECREATION OPPORTUNITIES	5-58

LIST OF PHOTOS

PHOTO 5-1	PROSPECT BOAT LAUNCH	5-48
PHOTO 5-2	PROSPECT BOAT LAUNCH	5-48
PHOTO 5-3	TRENTON FALLS SCENIC TRAIL PARKING AND ADA ACCESSIBLE OVERLOOK AREA	5-51
PHOTO 5-4	TRENTON FALLS SCENIC TRAIL	5-51
PHOTO 5-5	ONE OF SEVERAL OUTLOOKS FOR VIEWING TRENTON FALLS	5-52
PHOTO 5-6	TRENTON FALLS SCENIC TRAIL INFORMATIONAL SIGN #1	5-52
PHOTO 5-7	TRENTON FALLS SCENIC TRAIL INFORMATIONAL SIGN #2	5-53
PHOTO 5-8	PROSPECT RESERVOIR	5-66
PHOTO 5-9	PROSPECT DAM (UPSTREAM VIEW OF DAM FROM LEFT ABUTMENT).....	5-66
PHOTO 5-10	PROSPECT DAM (DOWNSTREAM VIEW FROM RIGHT EARTHEN EMBANKMENT)	5-67
PHOTO 5-11	PROSPECT CANAL (VIEW UPSTREAM FROM MILITARY ROAD BRIDGE CROSSING)	5-67
PHOTO 5-12	PROSPECT POWERHOUSE	5-68
PHOTO 5-13	WEST CANADA CREEK AT PROSPECT POWERHOUSE.....	5-68
PHOTO 5-14	TOWN OF PROSPECT SCENIC OVERLOOK PLATFORM	5-69
PHOTO 5-15	VIEW FROM TOWN OF PROSPECT SCENIC OVERLOOK.....	5-69
PHOTO 5-16	TRENTON IMPOUNDMENT	5-70
PHOTO 5-17	TRENTON DAM	5-70
PHOTO 5-18	TRENTON BYPASS REACH/TRENTON FALLS (VIEW FROM ERIE'S TRENTON FALLS SCENIC TRAIL VIEWING PLATFORM)	5-71
PHOTO 5-19	TRENTON POWERHOUSES.....	5-71
PHOTO 5-20	TRENTON POWERHOUSES AND SURGE TANK (VIEW FROM DOWNSTREAM)	5-72

APPENDICES

APPENDIX A	WEST CANADA CREEK PROJECT LICENSE AND TRANSFER ORDERS
APPENDIX B	DISTRIBUTION LIST
APPENDIX C	PAD QUESTIONNAIRE AND CONSULTATION RESPONSES
APPENDIX D	MONTHLY FLOW DURATION CURVES
APPENDIX E	EXISTING EXHIBIT G - PROJECT BOUNDARY

Volume II

APPENDIX F	CEII MATERIALS
------------	----------------

J:\826\165\Docs\PAD\1A- REVISED PAD\001 WCC PAD 02272018.docx

DEFINITIONS OF TERMS, ACRONYMS, AND ABBREVIATIONS	
A.C.	alternating current
ADA	American Disabilities Act
BIA	Bureau of Indian Affairs
Brookfield	Brookfield Renewable
C	Celsius
CEII	Critical Energy Infrastructure Information
CFR	Code of Federal Regulations
cfs	cubic feet per second
Census Bureau	U.S. Census Bureau
Commission	Federal Energy Regulatory Commission
CWA	Clean Water Act
CRIS	Cultural Resource Information System
DLA	Draft License Application
DO	dissolved oxygen
EA	Environmental Assessment
EIS	Environmental Impact Statement
Erie or Licensee	Erie Boulevard Hydropower, L.P.
ESA	Endangered Species Act
F	Fahrenheit
FAS	Fisherman Alert System
FERC	Federal Energy Regulatory Commission
FOIA	Freedom of Information Act
FPA	Federal Power Act
Francis Turbine	A radial-inflow reaction turbine, where flow through the runner is radial to the turbine shaft
ft	foot/feet
HAER	Historic American Engineering Record
hp	horsepower
hz	Hertz
ILP	Integrated Licensing Process

DEFINITIONS OF TERMS, ACRONYMS, AND ABBREVIATIONS	
Nameplate Capacity	The nameplate MW rating of a generator or group of generators
Interested Parties/ Stakeholders	The broad group of individuals and entities that have an interest in a proceeding
kW	kilowatt
kV	kilovolts
kVA	kilovolt amps
IPaC	Information for Planning and Consultation Resource List
MGD	million gallons per day
mg/L	milligram per Liter
mL	milliliter
MRLC	Multi-Resolution Land Characteristics Consortium
MVWA	Mohawk Valley Water Authority
MW	megawatt
MWh	megawatt-hour
NEPA	National Environmental Policy Act
NGO	Non-governmental organization
NOI	Notification of Intent
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRI	Nationwide Rivers Inventory
NWI	National Wetlands Inventory
NYISO	New York Independent System Operator
NYPA/Power Authority	New York Power Authority
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSCC	New York State Canal Corporation
NYSDOT	New York State Department of Transportation
NYSHP	New York State Heritage Program
NYOPRHP	New York Office of Parks, Recreation, and Historic Preservation
PAD	Pre-Application Document

DEFINITIONS OF TERMS, ACRONYMS, AND ABBREVIATIONS	
PLC	Programmable Logic Controller
PLP	Preliminary Licensing Proposal
PRISM	Partnerships for Regional Invasive Species Management
Project	FERC Project No. 2701, West Canada Creek Project
Project Area	The area within the FERC project boundary
Project Boundary	The boundary line defined in the Project license issued by FERC that surrounds those areas needed for operation of the Project
Project Vicinity	The general geographic area in which the Project is located; for this PAD, the towns of Trenton and Prospect, New York
Relicensing	The process of acquiring a new FERC license for an existing hydroelectric project upon expiration of the existing FERC license
Relicensing Participants	Individuals and entities that are actively participating in a proceeding
RIBS	Rotating Intensive Basin Studies
RM	River mile
rpm	revolutions per minute
RSP	Revised Study Plan
SD	Scoping Document
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SHPO	New York State Historic Preservation Officer
SLELO	Saint Lawrence and Eastern Lake Ontario PRISM
SPD	Study Plan Determination
SPDES	State Pollution Discharge Elimination System
Tailrace	Channel through which water is discharged from the powerhouse turbines
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQC	Water Quality Certificate
WSRRA	Wild, Scenic, and Recreational Rivers Act
WTP	Water Treatment Plant

**WEST CANADA CREEK HYDROELECTRIC PROJECT
FERC No. 2701**

PRE-APPLICATION DOCUMENT

1.0 INTRODUCTION AND BACKGROUND

Erie Boulevard Hydropower, L.P. (Erie or Licensee), a Brookfield Renewable company (Brookfield), hereby files with the Federal Energy Regulatory Commission (FERC or Commission) its Pre-Application Document (PAD) for relicensing of the existing 39.8 megawatts (MW) West Canada Creek Hydroelectric Project (FERC Project No. 2701) (Project). The West Canada Creek Project consists of two developments, Prospect and Trenton, and is located on West Canada Creek in Oneida and Herkimer counties, New York.

FERC issued the current license for the Project on March 18, 1983, for a term of 40 years. On February 8, 1999 (amended April 14, 1999), Niagara Mohawk Power Corporation and Erie filed a joint application for approval of transfer of the Project license. On July 26, 1999, FERC approved the transfer of license from Niagara Mohawk Power Corporation to Erie Boulevard Hydropower, L.P. (see Appendix A).

The existing FERC license for operation of the West Canada Creek Project expires February 28, 2023. Erie intends to file an application for a new license with FERC before February 28, 2021, 2 years prior to the license expiration. Erie is using FERC's Integrated Licensing Process (ILP) as found in Title 18 of the U.S. Code of Federal Regulations (CFR), Part 5. This PAD accompanies the Licensee's Notification of Intent (NOI) to seek a new license for the Project. The PAD provides FERC and interested parties with summaries of existing, relevant, and reasonably available information related to the Project that was in the Licensee's possession as supplemented by a due diligence search. The information required in the PAD is specified in 18 CFR 5.6 § (c) and (d).

Erie is distributing the PAD and NOI simultaneously to federal and state resource agencies, local governments, Native American tribes, non-governmental organizations (NGOs), members of the public, and other parties potentially interested in the relicensing proceedings (Appendix B). The information contained in this document was assembled based on the requirements set forth in 18 CFR §5.6 and is organized as follows:

- Section 2 – Purpose of the PAD;
- Section 3 – Process plan and schedule for all pre-application activity [18 CFR §5.6(d)(1)];
- Section 4 –Project location, facilities and operations [18 CFR §5.6(d)(2)];
- Section 5 – Description of existing environmental and resource impacts [18 CFR §5.6(d)(3)];
- Section 6 – Preliminary resource issues and potential studies or information gathering needs associated with the issues [18 CFR §5.6(d)(4)];
- Section 7 –Description of relevant comprehensive management plans relevant to the Project [(18 CFR § 5.6 (d)(4)];
- Section 8 – Literature and information sources cited in the descriptions and summaries of existing resource data [18 CFR §5.6(c)(2)]; and
- Appendices – Summary of contacts made in preparing the PAD, flow duration curves and related information supporting the sections above.

As set forth in 18 CFR §5.6, the Commission will issue Scoping Document 1 (SD1) within 60 days of Erie's filing of the PAD and hold a public scoping meeting and site visit within 30 days of issuing SD1.

2.0 PURPOSE OF THE PRE-APPLICATION DOCUMENT

By filing the NOI and this PAD, Erie is initiating the formal beginning of the FERC ILP relicensing process for the West Canada Creek Project. The purpose of this PAD is to: (1) describe the existing facility and current and proposed operations at the West Canada Creek Project, and (2) summarize existing information that is relevant to the evaluation of the West Canada Creek Project relicensing. In addition, this PAD is intended to assist resource agencies, municipalities, Indian tribes, NGOs, and interested parties in identifying potential resource issues and related informational needs, and to develop potential study requests (18 CFR §5.6(b)). The PAD is a precursor to the environmental analysis section of the License Application and to FERC's Scoping Documents and Environmental Impact Statement (EIS) or Environmental Assessment (EA) under the National Environmental Policy Act (NEPA). Filing the PAD concurrently with the NOI enables those who plan to participate in the relicensing to familiarize themselves with the Project at the beginning of the proceeding. This familiarity is intended to enhance the FERC scoping process that follows the filing of the PAD.

FERC's regulations require that a Licensee exercise due diligence in obtaining and including existing relevant and reasonably available information about the Project and related resources. To accomplish this, Erie has thoroughly reviewed its own files for relevant information regarding the Project. Erie has contacted resource agencies, municipalities, Indian tribes, NGOs, and other potentially interested parties and requested information and data that they may have about the Project or Project resources via a PAD questionnaire. In addition, Erie conducted searches of other potential information sources, including peer-reviewed journal articles, reference books, and the internet. All information sources cited in this PAD are appropriately referenced.

Erie distributed a PAD questionnaire to the initial stakeholder list on January 11, 2018. The questionnaire introduces the Project's relicensing process and asked questions pertaining to the organization's interest in participating in the Project's relicensing process, whether the organization knows of any existing, relevant, and reasonably available information that describes the Project's existing or historical environment, and if the organization is aware of any specific resource issues occurring at or near the Project. Appendix C provides a copy of the PAD questionnaire as well as a summary of responses Erie received.

3.0 PROCESS PLAN, SCHEDULE, AND PROTOCOLS

3.1 OVERALL PROCESS PLAN AND SCHEDULE

The following Process Plan and Schedule outlines the specific timeframes and actions by FERC, the Licensee, and other participants in the licensing process through filing of the License Application (Table 3-1). Erie developed the Process Plan and Schedule using the procedures and timeframes set forth in 18 CFR Part 5 (ILP) and based upon filing the NOI and PAD on February 28, 2018. All subsequent dates given are derived from the NOI and PAD filing date and final application filing date of February 28, 2021. Additionally, in developing the Process Plan and Schedule, Erie has included timeframes for Formal Dispute Resolution (18 CFR § 5.14) even though any study disputes may be resolved through informal dispute resolution. Because there is some flexibility in the dates given, the Process Plan and Schedule is subject to change throughout the relicensing proceeding.

TABLE 3-1 RELICENSING PROCESS PLAN AND SCHEDULE

ACTIVITY ¹	RESPONSIBLE PARTY	TIMEFRAME	REGULATION	DATES ^{2,3}
File Notification of Intent (NOI) and Pre-Application Document (PAD)	Erie	At least 5 but no more than 5.5 years prior to license expiration	18 CFR § 5.5(d)	2/28/2018
Initial Tribal Consultation Meeting	FERC	No later than 30 days of filing NOI/PAD	18 CFR § 5.7	3/30/2018
Issue Notice of NOI/PAD and Scoping Document 1 (SD1)	FERC	Within 60 days of filing NOI/PAD	18 CFR § 5.8(a)	4/29/2018
Conduct Scoping Meetings and Site Visit	FERC	Within 30 days of NOI/PAD notice and issuance of SD1	18 CFR § 5.8(b)(3)	TBD
File Comments on PAD, SD1, and Study Requests	Stakeholders	Within 60 days of NOI/PAD notice and issuance of SD1	18 CFR § 5.9(a)	6/28/2018
File Proposed Study Plan (PSP)	Erie	Within 45 days of deadline for filing comments on PAD	18 CFR § 5.11(a)	8/12/2018
Issuance of Scoping Document 2 (SD2) (if necessary)	FERC	Within 45 days of deadline for filing comments on SD1	18 CFR § 5.10	8/12/2018
Study Plan Meeting(s)	Stakeholders	First meeting to be held within 30 days of filing PSP	18 CFR § 5.11(e)	9/11/2018

ACTIVITY ¹	RESPONSIBLE PARTY	TIMEFRAME	REGULATION	DATES ^{2,3}
File Comments on PSP	Stakeholders	Within 90 days of filing PSP	18 CFR § 5.12	11/10/2018
File Revised Study Plan (RSP)	Erie	Within 30 days of deadline for comments on PSP	18 CFR § 5.13(a)	12/10/2018
File Comments on RSP	Stakeholders	Within 15 days following filing of RSP	18 CFR § 5.13(b)	12/25/2018
Issuance of Study Plan Determination (SPD)	FERC	Within 30 days following filing of RSP	18 CFR § 5.13(c)	1/9/2019
Initiate Formal Study Dispute Resolution Process (if necessary)	Agencies and Tribes with mandatory conditioning authority	Within 20 days of Study Plan Determination	18 CFR § 5.14(a)	
Dispute Resolution Panel Convenes	Dispute Resolution Panel	Within 20 days of notice of study dispute	18 CFR § 5.14(d)	
File Comments on Study Dispute	Erie	Within 25 days of notice of study dispute	18 CFR § 5.14(i)	
Dispute Resolution Panel Issues Recommendations	Dispute Resolution Panel	Within 50 days of notice of study dispute	18 CFR § 5.14(k)	
FERC Issues Study Dispute Determination	FERC	Within 70 days of notice of study dispute	18 CFR § 5.14(l)	
Conduct First Season of Studies	Erie	Pursuant to the approved Study Plan and Schedule	18 CFR § 5.15(a)	TBD 2019
File Initial Study Report	Erie	Pursuant to the approved Study Plan OR no later than 1 year after SPD	18 CFR § 5.15(c)(1)	1/9/2020
Initial Study Report Meeting	Stakeholders	Within 15 days from Initial Study Report	18 CFR § 5.15(c)(2)	1/24/2020
File Initial Study Report Meeting Summary	Erie	Within 15 days following the Initial Study Report meeting	18 CFR § 5.15(c)(3)	2/8/2020
File Meeting Summary Disagreements	Stakeholders	Within 30 days of filing study results meeting summary	18 CFR § 5.15(c)(4)	
File Responses to Meeting Summary Disagreements	Stakeholders	Within 30 days of filing meeting summary disagreements	18 CFR § 5.15(c)(5)	
Resolution on Disagreements	FERC	Within 30 days of filing responses to disagreements	18 CFR § 5.15(c)(6)	
Conduct Second Season of Studies (if necessary)	Erie		18 CFR § 5.15(a)	TBD 2020

ACTIVITY ¹	RESPONSIBLE PARTY	TIMEFRAME	REGULATION	DATES ^{2,3}
File Updated Study Report (if necessary)	Erie	Pursuant to the approved Study Plan OR no later than two years after SPD	18 CFR § 5.15(f)	1/8/2021
Updated Study Report Meeting (if necessary)	Stakeholders	Within 15 days of Updated Study Report	18 CFR § 5.15(f)	1/23/2021
File Updated Study Report Meeting Summary (if necessary)	Erie	Within 15 days of Study Results Meeting	18 CFR § 5.15(f)	2/7/2021
File Meeting Summary Disagreements	Stakeholders	Within 30 days of study results meeting summary	18 CFR § 5.15(f)	
File Responses to Meeting Summary Disagreements	Stakeholders	Within 30 days of filing of meeting summary disagreements	18 CFR § 5.15(f)	
Resolution on Disagreements	FERC	Within 30 days of filing responses to disagreements	18 CFR § 5.15(f)	
File Preliminary Licensing Proposal (PLP) or Draft License Application (DLA)	Erie	No later than 150 days prior to deadline for filing Final License Application	18 CFR § 5.16(a)	10/1/2020
File Comments on Applicant's PLP or DLA	Stakeholders	Within 90 days of filing PLP or DLA	18 CFR § 5.16(e)	12/30/2020
File Final License Application	Erie	No later than 24 months before existing license expires	18 CFR § 5.17	2/28/2021

¹ Activities in shaded areas are not necessary if there are no study disputes.

² If the due date falls on a weekend or holiday, the deadline is the following business day.

³ The schedule is subject to change throughout the relicensing proceeding. For updated schedules, see www.westcanadacreekproject.com.

3.2 SCOPING MEETING AND SITE VISIT

As set forth in the ILP regulations, FERC will issue Scoping Document 1 (SD1) within 60 days of the filing date of the NOI and PAD. In addition, pursuant to 18 CFR § 5.8(b)(3)(viii), FERC will provide public notice and schedule a public scoping meeting and a Project site visit to be held within 30 days of issuing SD1. FERC will notice the dates, times, and location of the Scoping Meetings and publish that information in local papers after the filing of the NOI and PAD.

3.3 ILP PARTICIPATION

Erie has provided this PAD to representatives of federal and state resource agencies, local governments, Native American tribes, NGOs, members of the public, and other parties potentially interested in the relicensing proceedings (Appendix B). Any party that would like to be added to or removed from the distribution list should send a written request to:

Steven Murphy
Director, Licensing
Brookfield Renewable
33 West 1st Street South
Fulton, New York 13069
Telephone: (315) 598-6130
Email: steven.murphy@brookfieldrenewable.com

3.4 COMMUNICATION AND DOCUMENT DISTRIBUTION

The Licensee's goal is to maintain open communication during the licensing process and to provide public access to relevant Project licensing information. Erie anticipates distribution of relevant documents, submittal of comments, and correspondence will be largely conducted electronically, either by electronic filing of documents with the FERC or via e-mail distribution. The Licensee will maintain documentation of all electronic correspondence as part of formal agency consultation proceedings.

Relicensing documents can be downloaded from the Project's relicensing website at: <http://www.westcanadacreekproject.com>. All requests for hard copies of relicensing documents should be sent to Mr. Steven Murphy using the contact information provided in Section 3.3, and should clearly indicate the document name, publication date, and FERC Project No. 2701. A reproduction charge and postage costs may be assessed for hard copies requested by the public.

Additionally, relicensing documents are available to the public through the FERC eLibrary, a records information system on the Internet that contains documents submitted to and issued by the FERC. The eLibrary can be accessed through the FERC's homepage, at <http://www.ferc.gov>, or directly at <https://elibrary.ferc.gov/idmws/search/fercgensearch.asp>. Documents filed with FERC as part of the Project licensing process are available for viewing and printing via eLibrary by searching under the Project's docket P-2701. Interested parties can subscribe to the Docket P-

2701 for the West Canada Creek Project under eSubscription on the Commission's website to receive notices of issuance and filings by e-mail.

3.5 RESTRICTED DOCUMENTS

Certain Project-related documents are restricted from public viewing in accordance with FERC regulations. Critical Energy Infrastructure Information (CEII) (defined under 18 CFR §388.113) are materials related to the design and safety of dams and appurtenant facilities and that, as necessary to protect national security and public safety, are restricted. Appendix F (Volume II) of this PAD includes information considered CEII and is being filed separately.

Additional restricted materials include Privileged Information associated with protecting sensitive information, such as the location of rare, threatened, or endangered species, and sensitive archaeological or other culturally significant properties. Anyone seeking this information from FERC must file a Freedom of Information Act (FOIA) request. Instructions for CEII and FOIA are available on FERC's website at <https://www.ferc.gov/legal/ceii-foia.asp>.

3.6 FERC COMMUNICATION

FERC has presently assigned Mr. Nicholas Ettema of its staff to serve as an advisor during the West Canada Creek Project ILP proceeding. Mr. Ettema will participate in relicensing meetings and provide guidance during the relicensing process in accordance with rules and regulations for the ILP. For questions related to FERC communications, please contact Mr. Ettema at 202- 502- 6565 or email at nicholas.ettema@ferc.gov.

4.0 PROJECT LOCATION, FACILITIES, AND OPERATIONS

4.1 AUTHORIZED AGENT

The exact name, business address, telephone number, and email address of each person authorized to act as an agent for Erie is listed below.

Steven Murphy
Director, Licensing
Brookfield Renewable
33 West 1st Street South
Fulton, New York 13069
Telephone: (315) 598-6130
Email: steven.murphy@brookfieldrenewable.com

Jon Elmer
Director of Operations
Brookfield Renewable
800 Starbuck Avenue, Suite 201
Watertown, New York 13601
Telephone: (315) 779-2401
Email: jon.elmer@brookfieldrenewable.com

4.2 PROJECT LOCATION

The West Canada Creek Project consists of two developments located on West Canada Creek in the Towns of Trenton and Russia, Oneida and Herkimer counties, New York (Figure 4-1). The upstream Prospect Development is located approximately 33 river miles (RM) from the confluence of West Canada Creek with the Mohawk River. The downstream Trenton Development is located approximately 31 RMs from the confluence of West Canada Creek with the Mohawk River. West Canada Creek, near the Prospect and Trenton developments, flows south through a picturesque gorge and is located in the southern foothills of the Adirondack Mountains, a few miles outside of the Adirondack Park boundary. Several natural falls exist below the Trenton Dam and an elevation drop of approximately 390 feet occurs between the Prospect headpond and the Trenton tailrace.

One of the primary features of the landscape within this portion of the West Canada Creek Basin is the Hinckley Reservoir located 2.5 miles upstream from the Prospect Dam. The Hinckley Dam, reservoir, and associated lands are owned by the People of the State of New York, under the jurisdiction of the New York State Canal Corporation's (NYSCC) (NYPA 2017). The Gregory B. Jarvis Hydroelectric Project (FERC No. 3211) is situated at the Hinckley Dam and is owned and operated by the Power Authority of the State of New York's (NYPA or Power Authority). The Hinckley Reservoir is operated by the NYSCC to: supply water to the New York State Canal System, provide domestic water supply¹, provide flows for hydroelectric power generation, provide minimum flows for aquatic resources, and provide flood protection for the West Canada Creek and lower Mohawk River Valleys. The Hinckley Reservoir regulates flows for the generation of hydroelectric power at the Jarvis Project and at the West Canada Creek Project.

Approximately 1 mile downstream of the Trenton Dam is the NYSCC diversion weir (also known as the Nine Mile Creek Feeder Dam or Morgan Dam), which diverts flow from West Canada Creek into the Nine Mile Feeder Canal and feeds into the New York State Canal System. Flows are diverted primarily during the navigation season² with releases to supplement downstream canal water levels to help maintain navigability in the canal system.

The existing Project boundary is shown in Appendix E (existing Exhibit G) and is also denoted in Figure 4-1. There are no lands of the United States included within the Project boundary.

¹ The Mohawk Valley Water Authority (MVWA) owns and operates the regional water system that provides drinking water for approximately 125,000 customers (about 37,00 residential and 800 commercial users) in the Utica area (MVWA 2018). The MVWA intake is located at the Hinckley Dam and withdrawals occur from Hinckley Reservoir, upstream from the West Canada Creek Project.

² The navigation season for 2018 is from May 18 through October 10 (NYSCC 2018a)

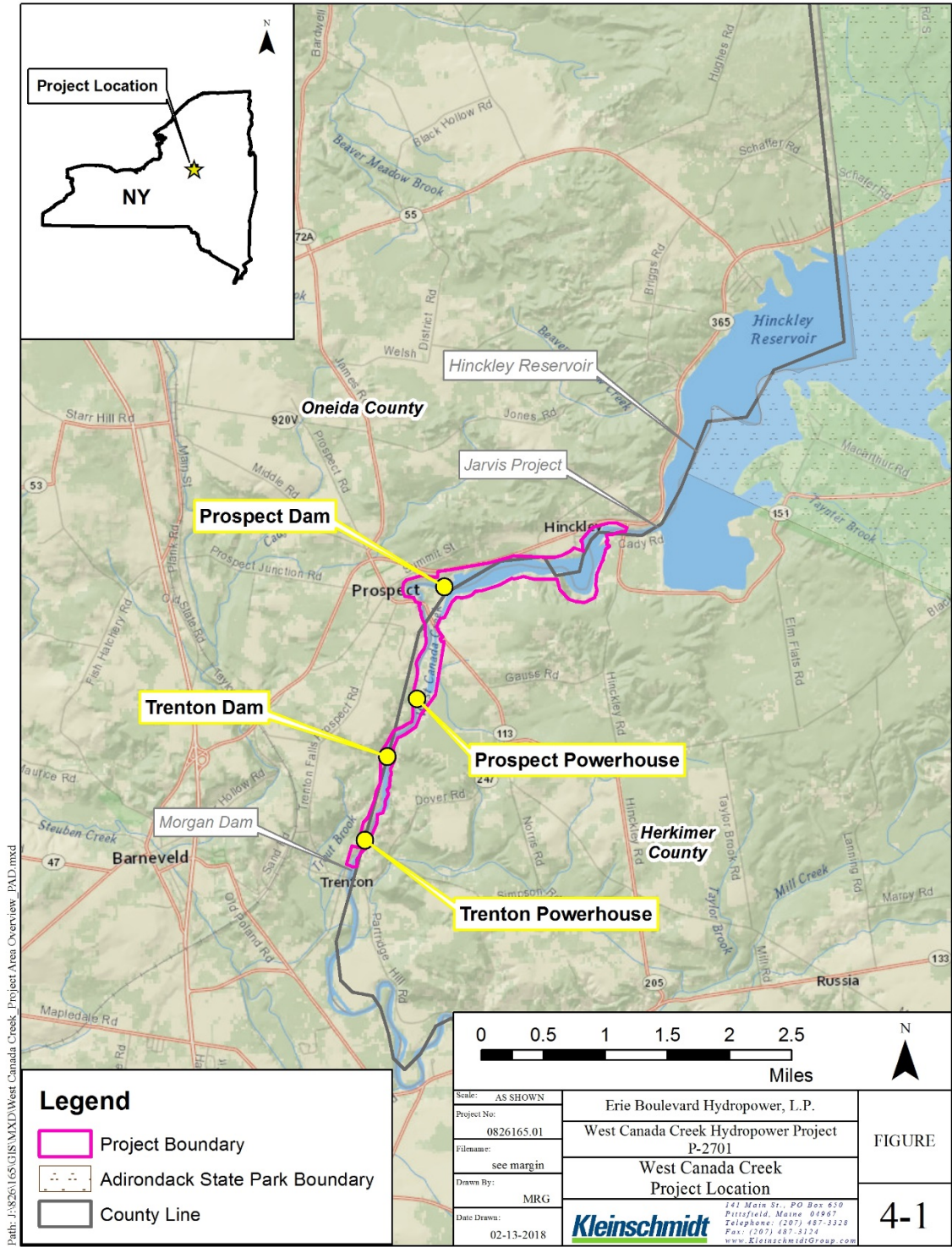


FIGURE 4-1 WEST CANADA CREEK PROJECT LOCATION

4.3 PROSPECT DEVELOPMENT

The Prospect Development is located at RM 33 and is the uppermost Project development. Table 4-1 provides a tabular summary of key features. Prospect is composed of: a 176-acre impoundment; a concrete overflow dam with earthfill dikes on either end; a 4,500-foot-long canal extending from a south dike to a concrete intake; a 430-foot-long steel penstock; an approximate 1.2-mile-long bypass reach; a reinforced concrete powerhouse containing a single turbine generator unit with a nameplate capacity of 17.3 MW; 6.9 kilovolts (kV) generator leads, 15-kV breaker, 6.6/46-kV transformer, a 46-kV switch connecting to the National Grid interconnection point within the substation; and appurtenant facilities.

Average annual power generated by the Prospect Development for the period from 2013 to 2017 is 74,745 megawatt-hours (MWh). This power is sold into the wholesale market administered by the New York Independent System Operator (NYISO). The NYISO calculates the dependable capacity for small hydro projects for two capability periods (summer and winter) (NYISO 2017). The calculation is based on the amount of generation the development produced during the NYISO's 20 peak load hours for each capability period. Each capability period has a five-year rolling average. For the most recent periods, Prospect's dependable capacity amount was 11.2 MW for the summer period and 13.5 MW for the winter period.

4.3.1 DAM

The Prospect Dam includes a main spillway, a north dike, and south dike. The main spillway is a concrete overflow 306-foot-long by 45-foot-high spillway controlled by three 27-foot-wide Tainter gates and seven 27-foot-wide needle beam bays. Each gate and bay is separated by a 4-foot concrete pier. There are two 42-inch pipes in the dam that serve as intakes for future water supply for the City of Utica. The two dikes are earthen embankments with impervious cores. The north dike is 400 feet long by 47 feet high and the south dike is 475 feet long by 47 feet high. The spillway crest is located at an elevation of 1,146.5 feet U.S. Geological Survey (USGS)³. The impoundment's normal pool elevation resides at 1,161.5 feet USGS aligning with the top of the Tainter gates.

³ All elevations refer to USGS mean sea level datum (National Geodetic Vertical Datum or NGVD).

4.3.2 INTAKE AND CONVEYANCE SYSTEM

Water is diverted through a 4,500-foot-long by 22-foot-high earthen power canal dike and forebay that extends from the south side of the dam to a concrete intake structure. The forebay is approximately 250 feet long by 65 feet wide. The intake consists of a concrete reinforced structure with a head gate hoist frame and electrical equipment house. The intake is equipped with vertical steel trashracks with 3 5/8-inch clear spacing, a motor operated rack rake, a structural steel gate of the fixed wheel type operated by a 60,000-pound capacity two-drum cable type motor driven hoist, and slots for stop logs. A 430-foot-long by 13.5-foot-diameter steel penstock conveys water from the intake to the Prospect Powerhouse.

4.3.3 POWERHOUSE

The 1959 Prospect powerhouse is located on the east bank of West Canada Creek. The Prospect Powerhouse is made of reinforced concrete and is approximately 62 feet wide by 76 feet long. From the equipment floor, the powerhouse is approximately 52 feet high with a substructure that is approximately 37 feet in depth. The Prospect powerhouse contains one 17,325 (kilowatt) kW vertical shaft turbine with a Francis runner. The turbine has a design capacity of 23,700 horsepower (hp), a design head of 135 feet, a minimum safe operating limit of 4 MW at a hydraulic capacity of 525 cubic feet per second (cfs) and a maximum hydraulic capacity of 1,855 cfs. The governing equipment is a Woodward cabinet actuator type with 80,500-foot-pounds capacity, arranged to operate the wicket gates by means of two servomotors in the turbine pit. The Prospect Powerhouse contains one direct connected vertical alternating current (A.C.) synchronous generator with a direct connected exciter. The generator is rated at 19,250 kilovolt amps (kVA), 0.9 power factor 17,325 kW, 180 revolutions per minute (rpm), 6,900 volts, 3-phase, 60-cycle. The exciter is shunt wound, self-excited, and is designated to operate in conjunction with a rotating amplifier type voltage regulator. The Prospect tailrace discharges directly into West Canada Creek (Trenton impoundment).

4.3.4 IMPOUNDMENT

The Prospect impoundment has a normal maximum surface area of 176 acres (with 161.7 acres in the main impoundment and 13.8 acres in the forebay) at a normal maximum surface elevation

of 1,161.5 feet USGS. At normal maximum surface elevation, the impoundment has a gross storage capacity of 3,250 acre-feet and a useable storage capacity of 803 acre-feet.

4.3.5 BYPASS REACH

At the Prospect Development, the bypass reach, an approximate 1.2-mile section of West Canada Creek, extends between the Prospect Dam and the powerhouse. The bypass reach is a narrow gorge with steep side slopes of rock outcrops and dispersed vegetation. The gorge is bordered along the top elevation with primarily forested vegetation. The Prospect canal extends to the east and the Mohawk Valley Water Authority (MVWA) Water Treatment Plant is located to the west of the bypass reach. Access to the bypass reach is restricted due to the steep terrain and for public safety reasons.

4.3.6 APPURTENANCES

Prospect Development has one, four-motor electric overhead traveling bridge crane rated at 60-tons capacity with an allowable overload capacity of 25 percent. The crane is equipped with a 10-ton auxiliary hoist.

The Prospect Powerhouse additionally contains a 15-kV breaker, the station control battery with automatic charger, the recorders and transmitters, and all electrical and mechanical parts to operate the station.

TABLE 4-1 PROSPECT DEVELOPMENT PROJECT COMPONENTS LIST

DESCRIPTION	NUMBER OR FACT
Prospect Development	
Prospect Development Capacity	17.3 MW
Prospect Dam River Mile	33
Impoundment	
Normal Surface Area	176 acres
Normal Surface Elevation	1,161.5 feet USGS
Useable Storage Capacity	803 acre-feet
Gross Storage Capacity	3,250 acre-feet
Dam	
Layout	Concrete overflow dam with earthfill dikes on either end
Overflow Dam Dimensions	306 feet long by 45 feet high
North Dike Dimensions	400 feet long by 47 feet high

DESCRIPTION	NUMBER OR FACT
Prospect Development	
South Dike Dimensions	475 feet long by 47 feet high
Spillway Crest Elevation	1,146.5 feet USGS
Intake	
Power Canal Dimensions	4,500 feet long by 22 feet high
Forebay Dimensions	250 feet long by 65 feet wide
Intake Construction	Reinforced concrete with vertical steel racks
Water Conduits	
Penstock	430 feet long by 13.5 feet diameter
Bypassed Reach	Approximately 1.2 miles long
Powerhouse	
Year Built	1959
Construction Type	Reinforced concrete
Dimensions	62 feet wide by 76 feet long by 52 feet high
Turbines	
Number	1
Type	Vertical shaft with Francis runner
Rating	17,325 kw
Turbine Design Capacity	23,700 HP
Maximum Hydraulic Capacity	1,855 cfs
Turbine Design Head	135 feet
Switchyard/Transmission Lines	
	The Prospect Development has a substation that adjoins the powerhouse. From the powerhouse the 6.9 kV generator leads go underground to the substation. The Licensee owns a 15-kV breaker, a 6.6/46-kV transformer, and a 46-kV switch connecting to the National Grid interconnection point within the substation.
Appurtenances	
	Prospect has one, four motor electric overhead traveling bridge crane rated at 60-tons capacity with an allowable overload capacity of 25 percent. The crane is equipped with a 10-ton auxiliary hoist.

4.3.7 TRANSFORMERS AND SWITCHYARD

The Prospect Development has a substation that adjoins the powerhouse. From the powerhouse the 6.9 kV generator leads go underground to the substation. The Licensee owns a 15-kV breaker, a 6.6/46-kV transformer, and a 46-kV switch connecting to the National Grid

interconnection point within the substation. Appendix F contains the single-line diagram for the Prospect Development, which is being filed as CEII.

4.4 TRENTON DEVELOPMENT

The Trenton Development is located at RM 31 and is the lowermost West Canada Creek Project development. Table 4-2 provides a tabular summary of key features. The Trenton Development is composed of: a 9 acre impoundment; a concrete masonry dam with a spillway, non-overflow sections, and auxiliary spillway; a concrete intake and a 14-foot-diameter tunnel/pipeline; a surge tank; four 7-foot-diameter penstocks; an approximate 4,000-foot-long bypass reach; two adjoining powerhouses housing retired in-place (Unit Nos. 1, 2, 3, and 4) and operational Unit Nos. 5, 6, and 7 with a total rated capacity of 22.5 MW; 13.2-kV generator leads, three 15-kV breakers, two 13.2/46-kV transformers, two 46-kV switches connecting to the National Grid interconnection point within the substation; and appurtenant facilities.

The average annual generation for the Trenton Development for the period from 2013 to 2017 is 142,080 MWh. Power generated by the Trenton Development is sold into the wholesale market administered by the NYISO. The NYISO calculates the dependable capacity for small hydro projects for two capability periods (summer and winter) (NYISO 2017). The calculation is based on the amount of generation the development produced during the NYISO's 20 peak load hours for each capability period. Each capability period has a five-year rolling average. For the most recent periods, Trenton's dependable capacity amount was 20.8 MW for the summer period and 23.2 MW for the winter period.

4.4.1 DAM

The Trenton Dam is a 288-foot-long by approximately 55-foot-high concrete and masonry dam consisting of a main spillway with non-overflow sections on either side and an auxiliary spillway. The main spillway section is approximately 100 feet long by 56 feet high with a crest elevation of 1,017.9 feet USGS surmounted by 6-foot-high trippable wooden flashboards and a 10-foot-high by 15-foot-wide sluice gate. A rock island separates the auxiliary spillway and the east non-overflow section. The west non-overflow section is 106 feet long, 65 feet high, with a crest elevation of 1,026.59 feet USGS. The east non-overflow section is 82 feet long, 56 feet high, with a crest elevation of 1,024.59 feet USGS. The auxiliary spillway is 160 feet long, 6.5

feet high, with a crest elevation of 1,016.2 feet USGS, and is surmounted by 8-foot-high trippable wooden flashboards. The impoundment's normal pool elevation resides at 1,023.9 feet USGS which aligns with the top of the main spillway's 6-foot-high flashboards.

4.4.2 INTAKE AND CONVEYANCE SYSTEM

The Trenton intake resides on the west side of the impoundment and approximately 100 feet upstream of the dam. The intake is 20 feet wide and contains a 20-foot-high by 14-foot-wide vertical lift gate protected by a single set of trashracks with 2-inch clear spacing (upstream of the gate). The gate opens into a 14-foot-diameter concrete-lined tunnel excavated in bedrock.

From the intake, a concrete lined 14-foot-diameter tunnel, approximately 1,284 feet long, connects to a 14-foot-diameter steel pipeline. The 14-foot-diameter steel pipeline reduces to a 12-foot-diameter steel pipeline that extends to a surge tank. The total pipeline length is approximately 2,000 feet. A 12-foot-diameter penstock extends from the surge tank and branches off into three 7-foot-diameter penstocks that lead to the newer powerhouse (Powerhouse No. 2). A 7-foot-diameter penstock also branches off from the 12-foot-diameter steel pipeline, but ahead of the surge tank, and leads to the older powerhouse (Powerhouse No. 1). Powerhouse No. 1 was retired in-place in 1989.

4.4.3 POWERHOUSES

A powerhouse complex is located on the west bank of the West Canada Creek. The original powerhouse, Powerhouse No. 1, was constructed in 1901 and is a steel-framed, native stone building. Powerhouse No. 1 is approximately 120 feet long by 37 feet wide by 60 feet high and houses Unit Nos. 1-4 that were retired in-place in 1989. In 1918 a second powerhouse, Powerhouse No. 2, was built abutting the upstream side of the original powerhouse. Powerhouse No. 2 is a steel-framed concrete building approximately 125 feet long by 37 feet wide by 96 feet high. Powerhouse No. 2 houses active Unit Nos. 5-7.

Powerhouse No. 1 contains four turbine units that have been retired in-place. Powerhouse No. 2 contains operational turbine Unit Nos. 5, 6, and 7. Unit No. 5 is rated at 7,400 kW, Unit No. 6 is rated at 7,650 kW and Unit No. 7 is rated at 7,400 kW for a total nameplate rating of 22,450 kW. Each unit has vertical Francis type runners with a design capacity of 10,500 hp, a design head of

255 feet, a minimum single unit safe operating limit of 2.5 MW at a hydraulic capacity of 145 cfs and a maximum station hydraulic capacity of 1,425 cfs. The Trenton tailrace discharges directly into West Canada Creek.

Unit Nos. 5, 6, and 7 generators are direct connected vertical A.C. synchronous machines. The Unit No. 5 generator is rated at 8,500 kVA, 0.87 power factor, 7,400 kW 327 rpm, 13,200 volts, 3-phase, 60 hz. The Unit Nos. 6 generator is rated at 8,800 kVA, 0.87 power factor, 7,650 kW, 327 rpm, 13,200 volts, 3-phase, 60 hertz (hz). The Unit No. 7 generator is rated at 8,500 kVA, 0.87 power factor, 7,400 kW 340 rpm, 13,200 volts, 3-phase, 60 hz. Each generator has a direct connected exciter.

4.4.4 IMPOUNDMENT

The Trenton impoundment has a normal maximum surface area of 9-acres at a normal maximum surface elevation of 1,023.9 feet USGS. At normal maximum surface elevation, the impoundment has a gross storage capacity of 264 acre-feet and a useable storage capacity of 155 acre-feet.

4.4.5 BYPASS REACH

The Trenton bypass reach extends approximately 0.75 miles between the Trenton Dam and Powerhouse. The bypass reach (Trenton Falls Gorge) is a steeply-sloped narrow gorge with a series of waterfalls, dropping approximately 200 feet over the length of the bypass reach. Access to the bypass reach is restricted due to the steep terrain and for public safety reasons. The gorge is bordered along the top elevation with primarily forested vegetation to the east and to the west with vegetation and Project facilities.

4.4.6 APPURTENANCES

Powerhouse No. 2 is equipped with a 50-ton capacity crane with motor travel and lift. In addition, there is a 10-ton auxiliary crane.

4.4.7 TRANSFORMERS AND SWITCHYARD

The Trenton Development powerhouse adjoins a National Grid 46-kV substation. From the powerhouse the 13.2-kV generator leads go overhead to the National Grid substation. The

Licensee owns three 15-kV breakers, two 13.2/46-kV transformers, and two 46-kV switches connecting to the National Grid interconnection point within the substation. Appendix F contains the single-line diagram for the Trenton Development, which is being filed as CEII.

TABLE 4-2 TRENTON DEVELOPMENT PROJECT COMPONENTS LIST

DESCRIPTION	NUMBER OR FACT
Trenton Development	
Trenton Development Capacity	22.5 MW
Trenton Dam River Mile	31
Impoundment	
Normal Surface Area	9 Acres
Normal Surface Elevation	1,023.9 feet USGS
Useable Storage Capacity	155 acre-feet
Gross Storage Capacity	264 acre-feet
Dam	
Layout	Concrete masonry dam with a spillway, two non-overflow sections, and an auxiliary spillway
Main Spillway Dimensions	100 feet long by 56 feet high
Main Spillway Flashboards	6-foot-high trippable wooden boards
West Non-Overflow Section	106 feet long by 65 feet high
East Non-Overflow Section	82 feet long by 56 feet high
Auxiliary Spillway Dimensions	160 feet long by 6.5 feet high
Auxiliary Spillway Flashboards	8-foot-high trippable wooden boards
Main Spillway Crest Elevation	1,017.9 feet USGS
Intake	
Intake Dimensions	20 feet wide with a 20-foot-high vertical lift gate
Water Conduits	
Pipeline	A concrete lined 14-foot-diameter tunnel is approximately 1,284 feet long and connects to a 14-foot-diameter steel pipeline. The 14-foot-diameter steel pipeline reduces to a 12-foot-diameter steel pipeline that extends to the surge tank. The total pipeline length is approximately 2,000 feet.
Penstock	A 12-foot-diameter penstock extends from the surge tank and branches off into three 7-foot-diameter penstocks that lead to Powerhouse No. 2. A 7-foot diameter penstock branches off from the 12-foot diameter steel pipeline ahead of the surge tank and leads to the older

DESCRIPTION	NUMBER OR FACT
Trenton Development	
	Powerhouse No. 1. Powerhouse No. 1 was retired in place in 1989.
Bypassed Reach	Approximately 4,000 feet long
Powerhouse No. 1 (retired in place)	
Year Built	1901
Construction Type	steel-framed, native stone
Dimensions	120 feet long by 37 feet wide by 60 feet high
Powerhouse No. 2	
Year Built	1918
Construction Type	Steel-framed, concrete building
Dimensions	125 feet long by 37 feet wide by 96 feet high
Turbines	
Number	Unit Nos. 1,2,3,4 = retired in place; Unit Nos. 5,6,7 = active
Type	Francis Type Runners
Rating	Unit No. 5 = 7,400 kw; Unit No. 6 = 7,650 kw; Unit No. 7 = 7,400 kw
Turbine Design Capacity	10,500 HP
Maximum Hydraulic Capacity	1,425 cfs
Turbine Design Head	255 feet
Switchyard/Transmission Lines	
	The Trenton Development powerhouse adjoins a National Grid 46-kV substation. From the powerhouse the 13.2-kV generator leads go overhead to the National Grid substation. The Licensee owns three 15-kV breakers, two 13.2/46-kV transformers, and two 46-kV switches connecting to the National Grid interconnection point within the substation.
Appurtenances	
	Powerhouse No. 2 is equipped with a 50-ton capacity crane with motor travel and lift. In addition, there is a 10-ton auxiliary.

4.5 DESCRIPTION OF PROJECT OPERATIONS

The Prospect Development impounds waters up to the Jarvis tailrace such that the maximum operating level of the Prospect Pond is at the same elevation as the Jarvis Project tailrace. Accordingly, water to the West Canada Creek Project is supplied from Hinckley Reservoir outflows. Hinckley Reservoir is operated by the NYSCC in accordance with the 2012 Hinckley

Reservoir Operating Diagram (NYPA 2017) and governed by legally binding operating agreements⁴ between the NYSCC, the MVWA, and Erie. The Jarvis Hydroelectric Project utilizes the reservoir releases to generate power. Outflows from Hinckley Reservoir and the Jarvis Project discharge directly into the Prospect Reservoir.

The current FERC license for the Jarvis Project allows for peaking operations and requires the Power Authority (as licensee for the Jarvis Project) to coordinate with Brookfield (as licensee for the West Canada Creek Project) and the NYSCC to maintain a continuous minimum flow of 160 cfs in West Canada Creek, as measured immediately downstream of the NYSCC diversion weir (Nine Mile Creek Feeder Dam). When conducting peaking operations, the Power Authority will average the outflow required by the 2012 Operating Diagram over the course of a 24-hour day. The Jarvis Project will therefore generate with a lower outflow during non-peak demand periods and then generate with a higher outflow during peak demand periods, so that the total daily average flow is equal to the required outflow.

The Power Authority Hydrologist communicates with the Erie Water Resource Manager twice weekly to discuss the application of the 2012 Operating Diagram based upon reservoir elevation in relation to the rule curve. The West Canada Creek Project is typically operated so that daily average inflows from Hinckley Reservoir (as controlled by the NYSCC and Power Authority based upon the 2012 Operating Diagram) into the Project are released from the Prospect and Trenton developments that same day to maintain daily average outflows (i.e., daily average inflows equal daily average outflows). The two developments are typically operated in tandem such that outflow from Prospect Development is followed by similar outflow at the downstream Trenton Development.

The current FERC license (Article 33) for the West Canada Creek Project requires Erie, as licensee, to provide a continuous minimum flow release of 160 cfs or inflow from the Hinckley Reservoir (whichever is less) for fisheries and aquatic habitat immediately downstream of the NYSCC diversion weir (Nine Mile Creek Feeder Dam). During the 2013-2015 period, the

⁴ The 2012 Operating Diagram was accepted and became effective in 2013 by an agreement by NYSCC and MVWA dated February 1, 2013, and an agreement by NYSCC and Erie dated January 13, 2015.

NYSCC diverted flows ranging from 0 cfs (average daily) up to 74 cfs (average daily) from West Canada Creek at its diversion weir (Nine Mile Creek Feeder Dam) into the Nine Mile Feeder Canal⁵. To maintain the required 160 cfs minimum flow below the NYSCC diversion weir, Erie coordinates with NYSCC and continuously monitors the amount diverted into the Nine Mile Feeder Canal by the NYSCC. Essentially, when the diversion amount is communicated to Erie by the NYSCC, Erie will factor this amount into their minimum flow requirement by adding that value to the 160 cfs minimum flow. This new value will determine the total amount of flow needed to be passed through the Trenton Development continuously to meet the minimum flow requirements for the West Canada Creek. (For example, if 40 cfs is being diverted through the Nine Mile Feeder Canal this means that Trenton Development will have to discharge at least 160 cfs + 40 cfs or 200 cfs from Trenton Development instantaneously to meet minimum flow requirements during that diversion period).

To ensure the 160 cfs minimum flow is provided immediately downstream of the diversion structure, Erie has placed staff gages and/or pressure transducers at the headpond and tailrace areas of each development to allow monitoring and control of Project operation. The NYSCC operates the diversion structure gatehouse (and associated gages) and alerts Erie of changes. Erie provides the required minimum flow by releasing 160 cfs, or more, via the turbines or at Trenton Dam, depending on NYSCC's operation of the New York State Canal System. In order to maintain minimum flows during unexpected outages, Erie has installed and maintains an automated minimum flow release valve at the Trenton Powerhouse that is capable of releasing the required 160 cfs minimum flow. The valve is tied directly to the piping associated with Unit No. 6 and essentially bypasses the turbine during forced shutdowns to pass the required minimum flows at the Trenton Powerhouse.

Sections 4.5.1 provides a description of the Prospect and Trenton developments operations during a normal water year. Sections 4.5.2 provides the respective development operations during high flow and adverse flow periods.

⁵ During the period 2013 to 2017, monthly average NYSCC diversion flows into the Nine Mile Feeder Canal ranged from 0 cfs to 69.6 cfs, with lowest daily average diversion of 0 cfs and highest daily average diversion of 74 cfs during this period (NYSCC 2018b); see also Section 5.4.

4.5.1 OPERATIONS DURING A NORMAL YEAR

4.5.1.1 PROSPECT DEVELOPMENT

The Prospect Development utilizes its reservoir's limited storage capacity as it operates between reservoir elevations of 1,161.5 feet (normal surface elevation) and 1,156.5 feet. When sufficient flow (within range of 500 cfs to 1,400 cfs) is provided from Hinckley Reservoir discharges upstream, the Prospect Reservoir can fluctuate up to approximately 5 feet daily and peaking occurs during the day and refill periods during the evening periods. When inflows are above or below the sufficient flow range (within 500 cfs to 1,400 cfs), the Prospect Development will typically operate as a run-of-river plant. However, when flows are below 500 cfs, Prospect's unit is operating below its optimal efficiency which may cause cavitation. To prevent damage to the unit due to cavitation, the unit may cycle on and off, thus operating in peaking mode.

Instrumentation is used to monitor headwater level at Prospect. The Prospect Development operates in manual or semi-automatic mode. Erie has the ability to remotely start and stop the Prospect unit and remotely operate the three Tainter gates. A traveling operator is on-site during weekdays, visiting the site once or twice daily. Additional personnel are sent to the site on an as-needed basis (e.g., for maintenance reasons). The Prospect Development has been automated for remote operation from Erie's North America System Control Center in Marlborough, Massachusetts, which is manned around the clock.

4.5.1.2 TRENTON DEVELOPMENT

The Trenton Development utilizes its reservoir's limited storage capacity as it operates between elevation 1,023.9 (normal surface elevation) and 1,011.9 feet. When sufficient flow (within range of 500 cfs to 1,400 cfs) is provided from upstream, the Trenton Reservoir can fluctuate up to approximately 12 feet daily and peaking occurs during the day and during refill periods in the evening periods. When inflows are above or below the sufficient flow range (within range of 500 cfs to 1,400 cfs), the Trenton Development is essentially operated as a run-of-river plant. The required 160 cfs minimum flow is passed either through the Trenton Development generating units or operations at the Trenton Dam. The turbine inlet valves and the minimum flow valve are electronically controlled by a programmable logic controller (PLC). If the minimum flow is interrupted by a turbine shutdown, the minimum flow valve tied to Unit no. 6 at the powerhouse is automated to open a specific amount to allow the passage of the required minimum flow.

For the safety of fishermen, Erie maintains a Fishermen Alert System (FAS) below the Trenton Powerhouse. The FAS includes 2 sirens (located at the Trenton Powerhouse and adjacent to Nine Mile Creek Feeder Dam) and one beacon/strobe (located on Dover Bridge). The FAS is activated prior to loading any unit or increasing the flow out of the Trenton Powerhouse. Additionally, the FAS is activated prior to releasing any flows at the Trenton Dam. The siren is only activated during daylight hours, while the beacon strobe is activated 24/7. There is associated downstream signage to inform the public that when the siren sounds there is a danger of fast rising water.

The Trenton Development operates in manual or semi-automatic mode. The generating units are controlled and monitored from Erie's North America System Control Center in Marlborough, Massachusetts. Instrumentation is used to monitor headwater levels at Trenton. At the Trenton Development, Erie can remotely operate the flood gate and vary the generating units down to motoring. Unit No. 7 also has remote start/stop capability. A travelling operator is on-site during weekdays, visiting the site once or twice daily. Additional personnel are sent to the site on an as needed basis (e.g., for maintenance reasons).

4.5.2 OPERATIONS DURING HIGH FLOW AND ADVERSE FLOW PERIODS

4.5.2.1 PROSPECT DEVELOPMENT

During periods of high flow, the Prospect Development is operated continuously at the full plant hydraulic capacity of approximately 1,855 cfs through the turbine and spilling flows in excess of 1,855 cfs. Managing flows beyond turbine capacity is accomplished by operating in a run-of-river mode utilizing any of the three Tainter gates, which have a combined hydraulic capacity of approximately 16,500 cfs at normal pond elevation.

When sufficient quantities of water are not available to permit the continuous operation of Prospect Development at full capacity, energy production or plant operation is scheduled as much as possible to meet the load requirements of the interconnected electric system.

4.5.2.2 TRENTON DEVELOPMENT

During periods of high flow, the Trenton Development is operated continuously at the full plant hydraulic capacity of approximately 1,425 cfs through the turbines and spilling flows in excess of 1,425 cfs. Managing flows beyond turbine capacity is accomplished by operating in a run-of-

river mode by first utilizing the flood gate (hydraulic capacity of approximately 1,800 cfs at normal pond elevation) and then tripping flashboard sections on the main spillway and/or auxiliary spillway as needed.

When sufficient quantities of water are not available to permit the continuous operation of the development at full capacity, energy production or plant operation is scheduled as much as possible to meet the load requirements of the interconnected electric system. Unit Nos. 5, 6, and 7 operate at efficient load within the limitations of load demand, stream flow available and sequenced with the upstream Prospect Development. During off load hours, unit operation is adjusted to maintain minimum flows.

4.6 GRID INTERCONNECTION

The Prospect Development has a substation that adjoins the powerhouse. From the powerhouse the 6.9 kV generator leads go underground to the substation. The Licensee owns a 15-kV breaker, a 6.6/46-kV transformer, and a 46-kV switch connecting to the National Grid interconnection point within the substation.

The Trenton Development powerhouse adjoins a National Grid 46-kV substation. From the powerhouse the 13.2-kV generator leads go overhead to the National Grid substation. The Licensee owns three 15-kV breakers, two 13.2/46-kV transformers, and two 46-kV switches connecting to the National Grid interconnection point within the substation.

4.7 GENERATION AND OUTFLOW RECORDS

Monthly average energy generation for the period 2013 to 2017 is provided in Table 4-3 for the Prospect Development and Table 4-4 for the Trenton Development. Total monthly average energy for the entire Project is provided in Table 4-5.

Project inflow and outflow records are provided in Section 5.4.2, and Project flow duration curves are provided in Section 5.4.3 and Appendix D.

TABLE 4-3 PROSPECT DEVELOPMENT HISTORIC GROSS MONTHLY GENERATION 2013-2017 (MWH)

MONTH	2013	2014	2015	2016	2017	AVERAGE
January	6,172	9,297	9,475	9,190	4,731	7,773
February	6,337	6,060	3,681	7,584	8,829	6,498
March	4,130	2,294	957	11,876	12,215	6,294
April	8,652	9,784	9,381	11,298	12,460	10,315
May	6,836	12,157	7,234	5,228	8,777	8,046
June	9,354	6,825	6,928	1,220	6,597	6,185
July	9,143	5,955	6,731	2,403	6,563	6,159
August	2,343	4,778	1,093	3,163	4,745	3,225
September	2,452	5,273	738	3,226	4,051	3,148
October	2,121	4,950	0	2,988	2,793	2,570
November	8,505	5,513	5,682	5,674	10,655	7,206
December	10,543	6,073	6,700	6,417	6,897	7,326
Annual	76,587	78,960	58,600	70,266	89,314	74,745

Note: Generation data recognize scheduled and unscheduled outages.

TABLE 4-4 TRENTON DEVELOPMENT HISTORIC GROSS MONTHLY GENERATION 2013-2017 (MWH)

MONTH	2013	2014	2015	2016	2017	AVERAGE
January	12,416	17,436	17,919	11,466	0	11,847
February	12,466	12,372	8,032	11,967	9,741	10,916
March	9,818	5,951	3,326	20,631	20,600	12,065
April	15,418	16,695	16,128	19,941	20,146	17,666
May	13,878	20,400	14,010	10,929	16,092	15,062
June	16,267	13,238	13,365	5,261	12,729	12,172
July	15,500	12,395	13,910	6,807	12,607	12,244
August	6,216	10,409	4,767	7,695	10,381	7,893
September	6,775	11,082	3,542	7,749	8,874	7,604
October	5,549	10,759	9,409	7,482	7,260	8,092
November	15,139	11,994	9,957	11,496	18,913	13,020
December	18,461	12,571	10,750	9,473	13,843	13,020
Annual	147,903	155,302	125,114	130,895	151,185	142,080

Note: Generation data recognize scheduled and unscheduled outages.

**TABLE 4-5 WEST CANADA CREEK PROJECT HISTORIC GROSS MONTHLY GENERATION
2013-2017 (MWH)**

Month	2013	2014	2015	2016	2017	Average
January	18,587	26,732	27,394	20,656	4,731	19,620
February	18,804	18,432	11,713	19,551	18,571	17,414
March	13,947	8,244	4,283	32,506	32,816	18,359
April	24,071	26,479	25,509	31,239	32,605	27,981
May	20,715	32,557	21,245	16,157	24,869	23,108
June	25,621	20,064	20,293	6,480	19,325	18,357
July	24,643	18,350	20,640	9,210	19,170	18,403
August	8,558	15,188	5,860	10,857	15,126	11,118
September	9,226	16,355	4,280	10,975	12,925	10,752
October	7,670	15,709	9,409	10,470	10,053	10,662
November	23,644	17,508	15,639	17,170	29,567	20,705
December	29,004	18,644	17,451	15,889	20,346	20,346
Annual	224,490	234,262	183,714	201,161	240,499	216,825

Note: Generation data recognize scheduled and unscheduled outages.

4.8 CURRENT LICENSE REQUIREMENTS AND COMPLIANCE HISTORY

FERC issued the current Project license to Niagara Mohawk Power Corporation on March 18, 1983, *Niagara Mohawk Power Corporation*, 22 FERC ¶ 62,347 [1983]. The current license is effective for a term of 40 years, with an effective date of March 1, 1983, and expiring on February 28, 2023. The License was amended on May 9, 1989, to incorporate revised as-built exhibit drawings and revise annual charges.

The licensed Project is subject to Articles 1-28 of the FERC’s standard terms and conditions set forth in Form L-3, (October 1975) entitled “Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters of the United States.” Project-specific license articles are stated in the 1983 license order as amended. Appendix A provides a copy of the West Canada Creek Project License Order.

The Project is not subject to a New York State Department of Environmental Conservation (NYSDEC) Water Quality Certificate (WQC). The Licensee applied for a WQC on July 5, 1972, and on June 9, 1980, and submitted a habitat flow study on June 18, 1981. Because the NYSDEC failed to act for over a year on the Licensee’s request for a WQC, the Project WQC requirement was waived by FERC.

Erie acquired the Project in 1999. FERC approved transfer of the current license from Niagara Mohawk Power Corporation to Erie on July 26, 1999 (88 FERC ¶ 62,082) (see Appendix A).

4.8.1 CURRENT LICENSE REQUIREMENTS

In accordance with the FERC license, Erie and the previous licensee have developed and implemented measures to protect and enhance the natural and recreational values of the Project and to mitigate Project-related impacts. The Licensee's history of compliance demonstrates a commitment to the non-power values of the Project:

- Pursuant to Article 8 and Article 33, Erie continues to ensure a continuous minimum flow of 160 cfs or inflow to the Project, whichever is less, as immediately measured downstream of the NYSCC diversion weir, for the purpose of protecting and enhancing aquatic resources in West Canada Creek. To ensure a continuous minimum flow of 160 cfs is provided immediately downstream of the NYSCC diversion weir year-round, the Licensee developed a stream gaging plan in consultation with the New York State Thruway Authority, U.S. Fish and Wildlife Service (USFWS), and NYSDEC.
- Pursuant to Article 34, the previous licensee consulted with the Power Authority, New York State Office of Parks, Recreation and Historic Preservation (NYOPRHP), NYSDEC, and the New York State Department of Transportation (NYSDOT) concerning recreational development at the Prospect Development. In accordance with consultations, the Licensee constructed and maintains a boat launch ramp and associated turnaround and parking area for public access to the Prospect impoundment.
- Pursuant to Article 35, the previous licensee, prior to redevelopment of the Trenton Powerhouse, consulted with the New York State Historic Preservation Office (SHPO), and conducted Historic American Engineering Record (HAER) documentation prior to the commencement of construction or alteration of facilities at the powerhouse.

4.8.2 COMPLIANCE HISTORY

The Licensee has a sound compliance history for the Project and no violations have occurred over the course of the current Project license. The Licensee files minimum flow and pond level compliance reports and self-reports to FERC of any incidents of temporary deviation from the required minimum flows. Additionally, annual inspections are conducted by the FERC's New York Regional Office on a regular basis. The Licensee completes all necessary corrective actions to address comments and recommendations arising from FERC inspections in a timely manner.

4.9 CURRENT NET INVESTMENT

The current net investment in the Project is \$28.8 million. This should not be interpreted as the fair market value of the West Canada Creek Project.

4.10 POTENTIAL FOR NEW PROJECT FACILITIES OR CHANGES IN PROJECT OPERATION

At this time, Erie is not considering modifying the West Canada Creek Project to incorporate new Project facilities or modify project operations from the existing operations.

5.0 DESCRIPTION OF EXISTING ENVIRONMENT AND RESOURCE IMPACTS

5.1 DESCRIPTION OF THE RIVER BASIN

The West Canada Creek basin drains portions of Hamilton, Herkimer and Oneida counties in central New York, and is a sub-basin to the Mohawk River Basin. The Mohawk River is 140 miles long with a drainage area of roughly 3,460 square miles and the largest tributary to the Hudson River (representing approximately 25 percent of the Hudson River Basin) (NYSDEC 2010). West Canada Creek is the second largest tributary of the Mohawk River and has a total drainage area of 561 square miles. The West Canada Creek originates in the Adirondack Mountains in Hamilton County and extends approximately 75 miles to its confluence with the Mohawk River. West Canada Creek is one of the most renowned trout streams in central New York, providing over 26 miles of stream access (Figure 5-1).

The climate of the project area is characterized by cold, snowy winters and warm summers. The average summer temperature in Utica, an area representative of the Mohawk Valley in Oneida County, is 68 degrees Fahrenheit (F), with a daily average maximum temperature of 78 degrees F. The average temperature in winter is 24 degrees F. There are, on average, 4,381 growing degree hours in a year. Precipitation is fairly evenly distributed throughout the year, and the area receives approximately 45 inches of precipitation each year. The average seasonal snowfall is 96 inches (USDA 2018).

From its origins, West Canada Creek flows south or south-westerly downstream to Hinckley Reservoir. Primary inflows to Hinckley Reservoir are from West Canada Creek (approximately 75 percent) followed by Black Creek (approximately 25 percent), along with several smaller tributaries. Hinckley Dam, located at the base of the Hinckley Reservoir at approximately RM 35, has a total drainage area of approximately 372 square miles.

Flows from Hinckley Reservoir release directly into the West Canada Creek Project's Prospect Reservoir. The Prospect Reservoir extends southwest from the tailrace of Hinckley Dam approximately 2 miles downstream to the Prospect Dam located at RM 33, which has a drainage area of approximately 375 square miles. West Canada Creek flows downstream from Prospect

Dam approximately 0.5 mile through the Trenton Reservoir to the Trenton Dam located at RM 31, with a drainage area of approximately 376 square miles. From the Trenton Dam, West Canada Creek flows south approximately 0.75 mile through Trenton Falls Gorge to the Trenton Powerhouse. Trenton Falls Gorge is a steeply-sloped gorge with a series of natural waterfalls, the highest with an approximate 100-foot drop, with an overall elevation drop of approximately 390 feet from the Prospect headpond to the Trenton tailrace.

Below the project area, flows continue downstream to the Nine Mile Creek Feeder Dam located approximately 0.25 mile downstream of the Trenton tailrace. From the Nine Mile Creek Feeder Dam, the West Canada Creek flows downstream through the trophy catch and release section to the Newport Dam (approximately 13 miles downstream of the Nine Mile Creek Feeder Dam), and ultimately to its confluence with the Mohawk River just east of the village of Herkimer, New York.

5.2 MAJOR LAND AND WATER USES

In the project area, the counties of Oneida and Herkimer, New York, bisect the West Canada Creek. The Adirondack Park, which consists of some of the highest peaks in New York, is a mix of hardwood and conifer forests, lies northeast of the project area, with the Adirondack Park boundary extending down to include portions of the upstream Hinckley Reservoir. Outside of the Adirondack Park, from north to south the landscape and forested lands transitions to sparse agricultural and developed land mixed between riparian areas, floodplains, wetlands, swamps, and calcareous cliff formations along the West Canada Creek (The Nature Conservancy 2017).

The upper portions of the West Canada Creek basin are primarily forested with dispersed rural residential use. The lower portion of the basin includes forested, dispersed rural residential, and agricultural use, along with residential and commercial use in the towns and villages in the vicinity of the creek, such as Prospect, Trenton Falls, Gravesville, Poland, Newport, Middleville and Herkimer. The West Canada Creek provides recreational opportunities and is one of the most renowned trout streams in central New York. The reach from Dover Road Bridge (immediately below Nine Mile Creek Feeder Dam), approximately 2.5 miles downstream to the confluence of Cincinnati Creek, is a NYSDEC-stocked catch and release zone, known as the Trophy Section, where year-round fishing is permitted (see Sections 5.5 and 5.9).

The Adirondack Park encompasses much of the watershed north of the Project boundary. Land use within the West Canada Creek Basin is dominated by deciduous forest (169,385 acres, 47 percent), evergreen forest (47,446 acres, 13 percent) and mixed forest (36,351 acres, 10 percent). (Table 5-1, Figure 5-2). Within 1,000 feet of the Project boundary, the majority of land cover is scrub/shrub (329 acres, 21 percent), open water (234 acres, 15 percent) and evergreen forest (152 acres, 9.5 percent) (Table 5-2, Figure 5-3).

Lands adjacent to the West Canada Creek Project are generally wooded, but several farm fields are scattered in the area. A majority of this land is privately owned and consists of private year-round or vacation residences and rural vacant land (Herkimer County 2017). Lands within the West Canada Creek Project boundary are primarily wooded and used for the operation and maintenance of the Project.

TABLE 5-1 SUMMARY OF LAND USE WITHIN THE WEST CANADA CREEK BASIN

LANDCOVER	AREA (ACRES)	PERCENTAGE
Open Water	10,784	3
Developed, Open Space	5,052	1.5
Developed, Low Intensity	905	<1
Developed, Medium Intensity	153	<1
Developed, High Intensity	26	<1
Barren Land (Rock/Sand/Clay)	276	<1
Deciduous Forest	169,385	47
Evergreen Forest	47,446	13
Mixed Forest	36,351	10
Scrub/Shrub	19,837	6
Grasslands/Herbaceous	5,214	1.5
Pasture/Hay	31,851	9
Cultivated Crop	11,522	3
Woody Wetlands	17,540	5
Emergent Herbaceous Wetlands	3,045	<1

Source: Herkimer County 2017

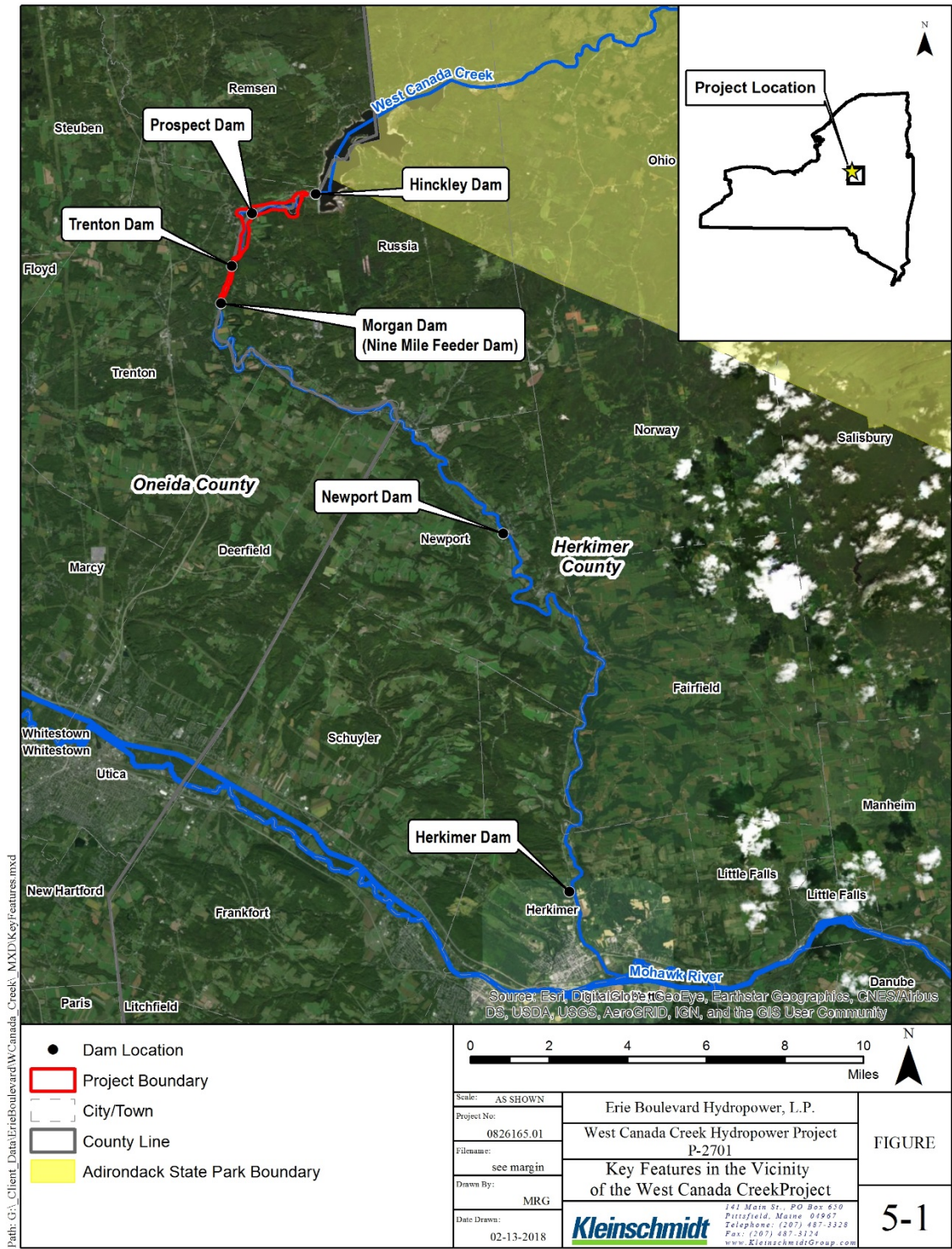


FIGURE 5-1 KEY FEATURES IN THE VICINITY OF THE WEST CANADA CREEK PROJECT

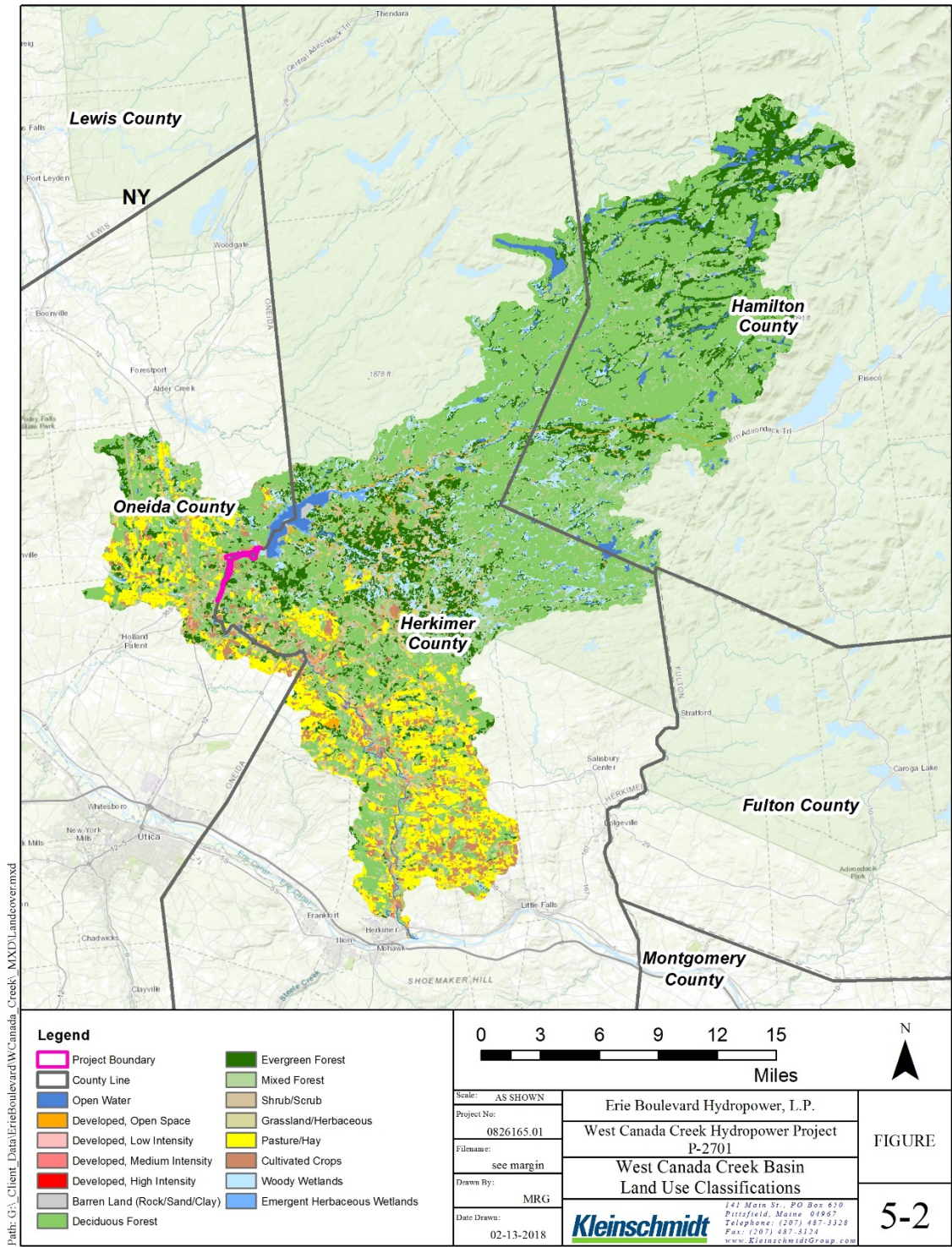


FIGURE 5-2 WEST CANADA CREEK BASIN LAND USE CLASSIFICATIONS

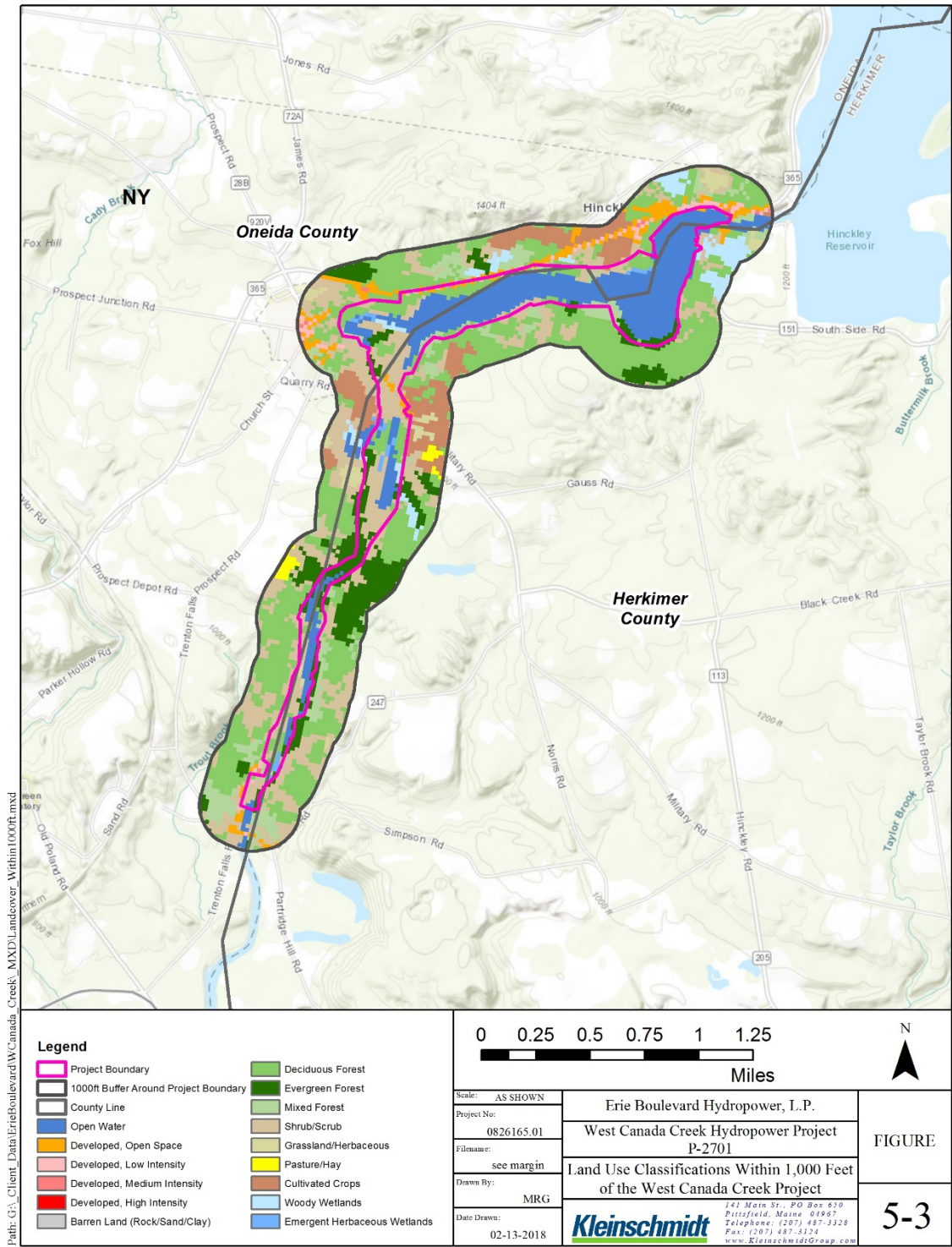


FIGURE 5-3 LAND USE CLASSIFICATIONS WITHIN 1,000 FEET OF THE WEST CANADA CREEK PROJECT

TABLE 5-2 SUMMARY OF LAND USE WITHIN 1,000 FEET OF THE WEST CANADA CREEK PROJECT

LANDCOVER	AREA (ACRES)	PERCENTAGE
Open Water	234	15
Developed, Open Space	56	3.5
Developed, Low Intensity	18.5	1
Developed, Medium Intensity	3	<1
Deciduous Forest	507.5	<1
Evergreen Forest	152	9.5
Mixed Forest	99	6
Scrub/Shrub	329	21
Grasslands/Herbaceous	24	1.5
Pasture/Hay	9	<1
Cultivated Crops	104	6.5
Woody Wetlands	46.5	3
Emergent Herbaceous Wetlands	8.5	<1

Source: Herkimer County 2017

Water uses within the basin include: supplying drinking water to approximately 125,000 residents in the greater Utica area, supplying water to the New York State Canal system, supplying water for hydroelectric generation, and aquatic recreation (see Section 5.4).

5.2.1 DAMS WITHIN THE BASIN

Dams within the West Canada Creek basin include the upstream Hinckley Dam, the Prospect Development Dam and Trenton Development Dam, and downstream, Nine Mile Creek Feeder Dam, the Newport Dam, and the Herkimer Dam (Figure 5-1). Downstream of the Trenton Dam (approximately 1 mile) is the Nine Mile Creek Feeder Dam (NYSCC diversion weir). The Nine Mile Creek Feeder Dam is owned and operated by the NYSCC and is used to divert navigation flows into the Nine Mile Feeder Canal. Approximately 13 miles downstream of the Nine Mile Creek Feeder Dam is the Newport Dam associated with the Newport Hydroelectric Project which operates under an exempt FERC license (FERC No. 5196) with a 1,960-kW capacity. Further downstream, approximately 26 miles below the Nine Mile Creek Feeder Dam is the Herkimer Dam associated with the Herkimer Hydroelectric Project (FERC No. 9709), with a licensed capacity of 1,680 kW.

5.2.2 TRIBUTARY RIVERS AND STREAMS

There are no major tributaries that exist on West Canada Creek along the Project boundary. Upstream of the Project, the main tributaries that contribute flow to Hinckley Reservoir are West Canada Creek and Black Creek. The other minor tributaries that drain into Hinckley Reservoir are Remus Brook, Kreskern Creek, Taynter Brook, Buttermilk Brook and Beaver Meadow Brook (Figure 5-4).

5.3 GEOLOGY

5.3.1 TOPOGRAPHY

The project is in the Adirondack Mountains physiographic province, close to the edge of the mountain range and near the center of New York state. This province is a large upland that occupies approximately one-fourth of New York state and is surrounded by lowlands. More specifically, the Project is located in the Western Hills subdivision of the Adirondacks, in the southwest area of the province. The Western Hills subdivision is characterized by foothills and streams flowing from the higher mountains. (NYSDOT 2013).

The topography and geology of the Adirondacks was largely formed by a glacier that was created approximately one quarter of a million years ago. As the glacier moved through the region, the soil and rock that it glided over was caught in the ice. As the glacier became larger, it broke and lifted rocks as it advanced over mountains; when the glacier melted, it deposited these rocks throughout the region (Adirondack Park Agency 2017a).

5.3.2 GEOLOGICAL FEATURES

The Adirondack Mountains province is dominated by hard, crystalline, igneous rock (NYSDOT 2013). Valleys in this province are produced by bedrock structures. The Trenton Falls area is known for the Trenton Falls Gorge. The area contains limestone deposits and fossils. The limestone deposits along the sides of the Trenton Falls Gorge include layers of folded and broken limestone amongst layers of undisturbed limestone. Each layer is, on average, a few inches thick (Miller 1908).

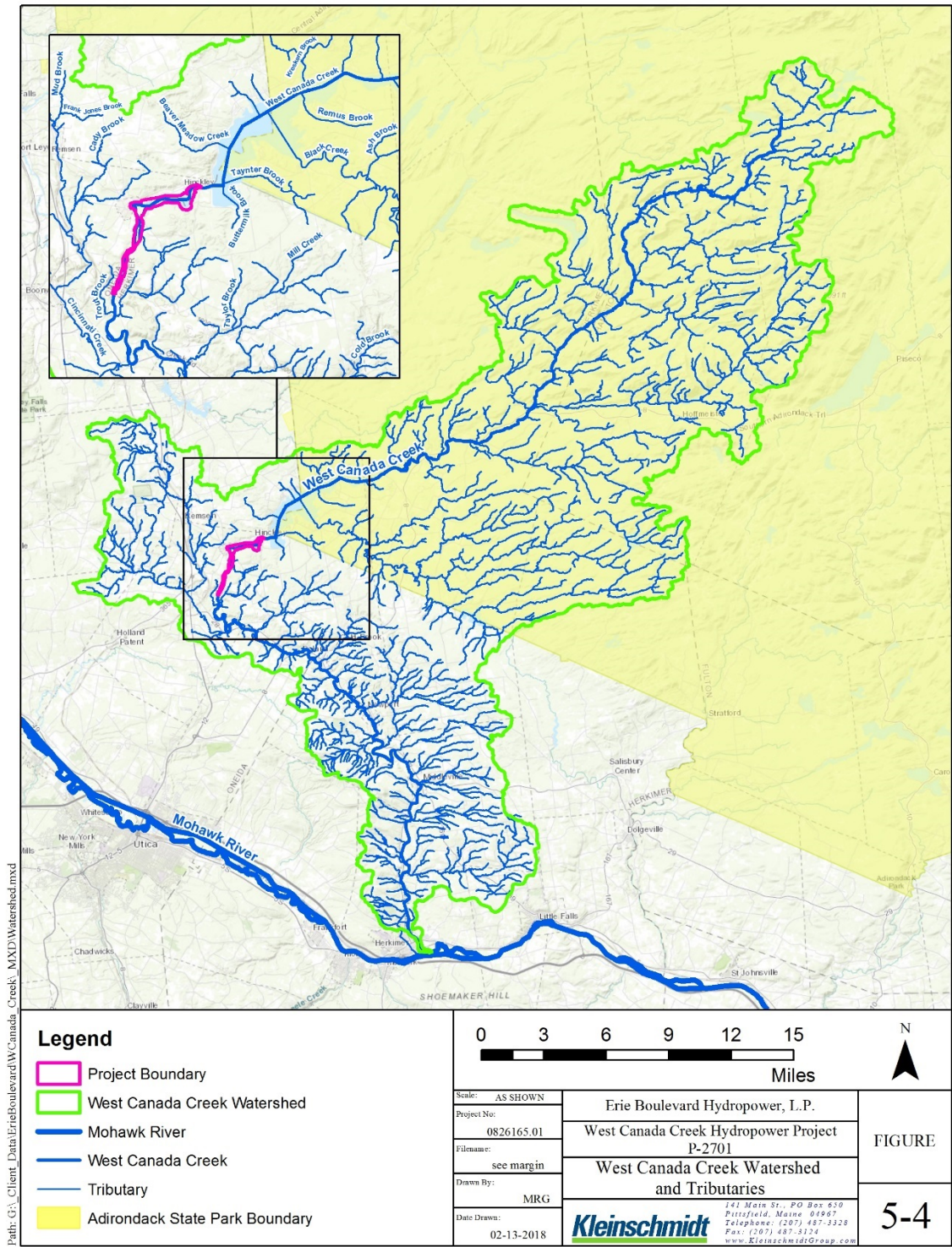


FIGURE 5-4 WEST CANADA CREEK WATERSHED AND TRIBUTARIES

The Trenton Falls Gorge is comprised of deeply incised, steep valley walls and varies in depth from about 100 to 200 feet and includes a series of exposed limestone strata, cascades and natural falls. Within the gorge there are a series of natural waterfalls, including the Mill Dam Falls (approximately 14-foot drop), the Upper High Falls (approximately 40-foot drop), the Lower High Falls (approximately 100-foot drop, and Sherman Falls (approximately 33-foot drop) (Harvard University 2004, Northern New York Waterfalls 2018).

The USGS classifies the bedrock lithology in the project area for both developments as being in the Trenton Group, which originated in the Middle Ordovician geologic age. Limestone is the primary rock type in this group, with shale as the secondary rock type (USGS 2017).

5.3.3 PROJECT AREA SOILS

The soil in the province developed approximately 10,000 years ago after the glacial retreat, making it a relatively young soil compared to most soils in the United States. Adirondack soils tend to be thin, sandy, acidic, infertile, and drought-prone (Adirondack Park Agency 2017a). The Western Hills subdivision contains many sand deposits in and around former glacial lakes (NYSDOT 2013).

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) conducted soil surveys covering most of the project area, though it is important to note that the project area contains more than one soil survey area. Each survey may have been conducted at different scales or times, with different purposes, or at differing levels of detail; this may result in some inconsistencies between the survey areas within the project area (NRCS 2018).

The largest land unit type within the project area is cut and fill land, which comprises 14.6 percent of the area of interest (Table 5-3, Figure 5-5). The majority (70 percent) of the cut and fill land is composed of udorthents, which contain channery loam and very gravelly sandy loam, and similar soils. Approximately 6.5 percent of the project area is composed of rough broken land, and the majority (70 percent) of this category consists of eutrudepts, which are made up of channery loam; rough broken land; and similar soils (NRCS 2018).

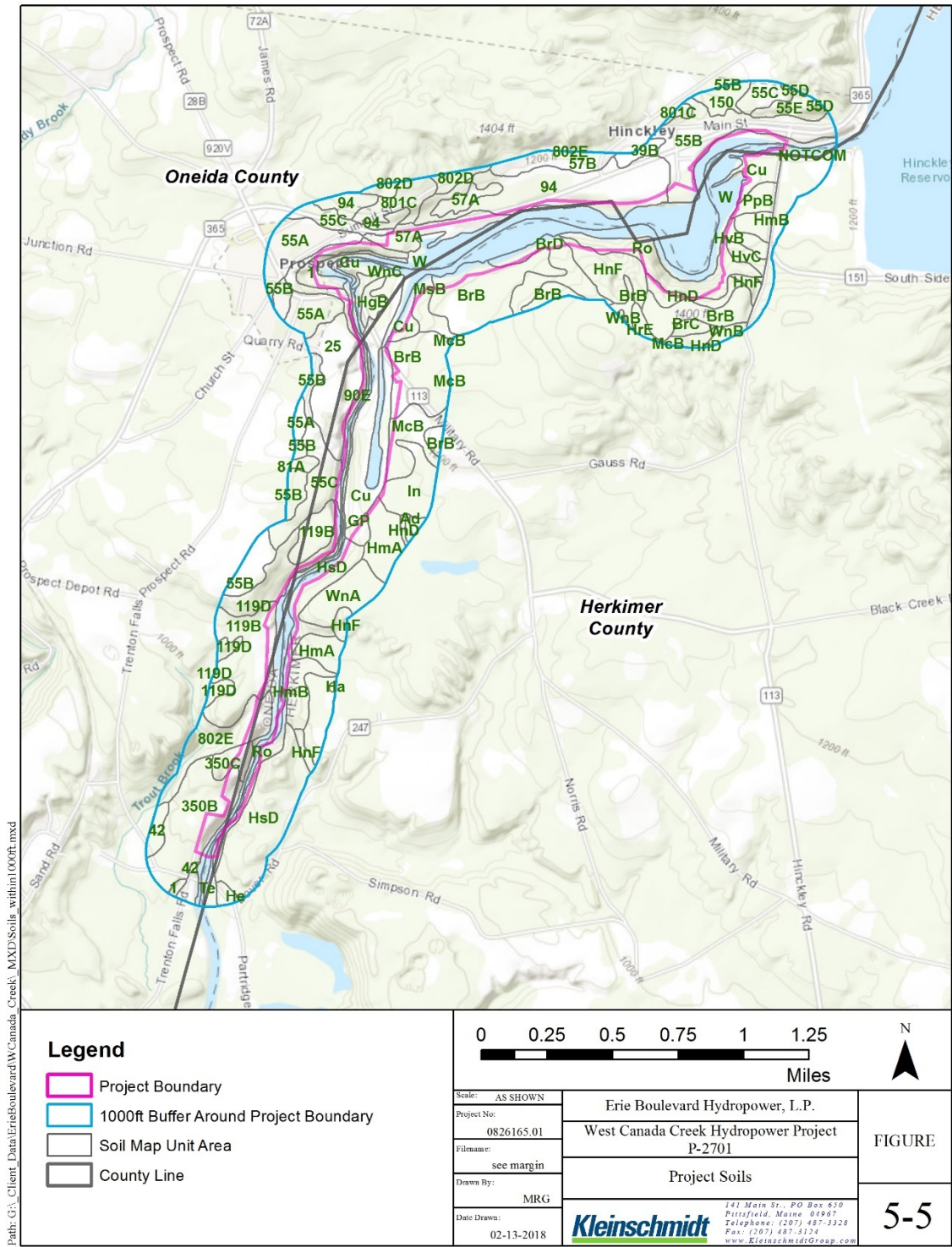


FIGURE 5-5 PROJECT AREA SOILS

TABLE 5-3 SOILS MAP UNIT LEGEND

MAP UNIT SYMBOL	MAP UNIT NAME
NOTCOM	No Digital Data Available
BrB	Broadalbin loam, 2 to 8 percent slopes
BrD	Broadalbin loam, 15 to 25 percent slopes
Cu	Cut and fill land
GP	Gravel Pit
HgB	Hartland-Agawam complex, 3 to 8 percent slopes
HmA	Hinckley gravelly loamy sand, 0 to 3 percent slopes
HnD	Hinckley and Windsor soils, 15 to 25 percent slopes
HnF	Hinckley and Windsor soils, 25 to 70 percent slopes
HsD	Honeoye and Mohawk very stony silt loams, 0 to 25 percent slopes
HvB	Howard gravelly silt loam, 3 to 8 percent slopes
In	Ilion silt loam
McB	Manheim silt loam, 3 to 8 percent slopes
MsB	Mosherville very fine sandy loam, 2 to 8 percent slopes
PpB	Phelps gravelly fine sandy loam, 0 to 4 percent slopes
Ro	Rough broken land
Te	Teel fine sandy loam
W	Water
WnC	Windsor loamy fine sand, 8 to 15
1	Udifluvents-Fluvaquents complex, frequently flooded
25	Pits, quarry
55A	Adams loamy sand, 0 to 3 percent slopes
55B	Adams loamy sand, 3 to 8 percent slopes
55C	Adams loamy sand, 8 to 15 percent slopes
57A	Croghan loamy fine sand, 0 to 3 percent slopes
90E	Windsor loamy fine sand, 25 to 55 percent slopes
94	Naumburg loamy sand
119B	Pyrities loam, 3 to 8 percent slopes
119D	Pyrities loam, 15 to 25 percent slopes
350B	Alton gravelly loam, 3 to 8 percent slopes
350C	Alton gravelly loam, 8 to 15 percent slopes
802E	Howard and Alton gravelly loams, 25 to 45 percent slopes, cool
W	Water

Source: NRCS 2018

5.3.4 RESERVOIR SHORELINE AND STREAMBANKS

5.3.4.1 PROSPECT DEVELOPMENT

The shoreline at the Prospect Development is comprised of gradual slopes, mostly forested, but with some open areas, especially along the power canal. The bypassed reach shoreline extends through narrow gorge and contains walls of bedrock, ledges, and steep slopes. The Prospect impoundment has approximately 4.7 miles of shoreline, and the Prospect canal/forebay has approximately 1.7 miles of shoreline.

5.3.4.2 TRENTON DEVELOPMENT

At the Trenton Development, the reservoir and bypassed reach shorelines are forested and contain exposed bedrock with sharp, dramatic ledges. The shoreline downstream of the Trenton powerhouse is also forested and rocky but is flatter and contains less dramatic slopes. The Trenton impoundment has an estimated approximately 1.2 miles of reservoir shoreline.

5.3.5 SEISMICITY

The project area possesses relatively low seismicity and low risk of earthquakes severe enough to cause damage. A USGS map shows that Oneida County, in which the Project is located, has a peak horizontal acceleration (%g), with 10 percent probability of exceedance in 50 years, of 3-5 percent (NYSDHS and Emergency Services 2017). This is low, as a peak horizontal acceleration of 10 percent and under is generally considered low.

5.4 WATER RESOURCES

5.4.1 DRAINAGE AREA

As discussed in Section 5.1, the West Canada Creek has a total drainage area of approximately 561 square miles. The Trenton Development dam is located at approximate RM 31, and has a drainage area of approximately 376 square miles. The West Canada Creek headwaters originate in Hamilton County, New York and flows approximately 75 miles to its confluence with the Mohawk River (see Figure 5-1).

5.4.2 STREAM FLOW CHARACTERISTICS

Inflow to the West Canada Creek Project is regulated and from the Hinckley Reservoir which has a capacity volume of approximately 25.8 billion gallons and impounds approximately 79,177 acre-feet of water (NYPA 2017). Streamflow data provided for West Canada Creek Project is based on the downstream USGS Gage No. 01346000 at Kast Bridge located on West Canada Creek in Herkimer, New York, for the period of 1997 to 2017. Flow data for the West Canada Creek Project at the Prospect Dam and Trenton Dam are based on prorations of their respective drainage areas.

Table 5-4 and Table 5-5 present the mean, maximum, and minimum monthly average flows for the Prospect Development and Trenton Development, respectively, for the period 1997 to 2017. Prospect Development discharges directly into Trenton Development. Trenton Development discharges directly into West Canada Creek.

**TABLE 5-4 PROSPECT DEVELOPMENT MONTHLY AVERAGE FLOWS (CFS)
(PERIOD 1997-2017)**

MONTH	MIN	MAX	AVG
January	374	8,054	1,182
February	234	3,860	1,031
March	284	4,462	1,364
April	395	14,003	2,181
May	277	7,909	1,242
June	184	13,786	914
July	205	8,344	724
August	197	2,786	579
September	146	5,819	574
October	126	4,890	874
November	265	6,218	1,085
December	268	4,252	1,142
Annual	126	14,003	1,073

Source: Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY, for the period of record of 1997-2017.

**TABLE 5-5 TRENTON DEVELOPMENT MONTHLY AVERAGE FLOWS (CFS)
(PERIOD 1997-2017)**

MONTH	MIN	MAX	AVG
January	375	8,071	1,185
February	234	3,868	1,033
March	285	4,472	1,367
April	396	14,033	2,185
May	278	7,925	1,245
June	185	13,815	916
July	206	8,362	725
August	197	2,792	580
September	146	5,831	575
October	127	4,901	876
November	265	6,231	1,087
December	269	4,261	1,144
Annual	127	14,033	1,076

Source: Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY, for the period of record of 1997-2017.

5.4.3 FLOW DURATION CURVES

The annual and monthly flow duration curves are provided in Appendix D. The flow curves were developed based on USGS Gage No. 01346000 (at Kast Bridge) located on West Canada Creek in Herkimer, New York, for the period of 1997 to 2017.

5.4.4 EXISTING AND PROPOSED USES OF PROJECT WATERS

Existing uses of West Canada Creek waters for irrigation, domestic water supply, and industrial purposes within the project vicinity (upstream and downstream requirements) include hydroelectric power generation and provision of flows to the New York State Canal System and minimum flows for aquatic resources.

During the operating season for the canal system, the NYSCC may divert flows below the Trenton Falls Development tailrace at the NYSCC diversion weir into the Nine Mile Feeder Canal. As required by the FERC license for the West Canada Creek Project, Erie, as licensee, coordinates with the Power Authority and NYSCC to provide a minimum flow of 160 cfs downstream of NYSCC diversion weir. Prior instream flow studies conducted by Ichthyological Associates in 1980 determined 160 cfs was optimal to maintain aquatic habitat for various life stages of fishes downstream of Trenton Station. When the canal is operating, the minimum flow

from the West Canada Creek Project must include 160 cfs plus the amount diverted into the Nine Mile Feeder Canal. During the period 2013 to 2017, monthly average NYSCC diversion flows into the Nine Mile Feeder Canal ranged from 0 cfs to 69.6 cfs, with lowest daily average diversion of 0 cfs and highest daily average diversion of 74 cfs during this period (NYSCC 2018b).

The MVWA Hinckley Reservoir Water Treatment Plant (WTP), located to the west of the Prospect bypass, was placed in service in 1992. The MVWA WTP has a State Pollutant Discharge Elimination System (SPDES) discharge permit which allows the WTP to discharge flow from the WTP backwash lagoons into West Canada Creek. The permit was issued in 1990 and is renewed on a 5-year interval (NYSDEC 2018a). Approximately 1.72 million gallons per day (MGD) is discharged from outfall 1 into West Canada Creek at the Prospect Development's bypass reach in the vicinity of the WTP. The NYSDEC proposed a Department Initiated Modification and renewal to the WTP SPDES permit in December 2016, and proposed changes in the flow monitoring frequency, daily loading limits, effluent parameters and Whole Effluent Toxicity testing requirements (NYSDEC 2018b).

5.4.5 EXISTING INSTREAM FLOW USES

Existing instream uses of water near the West Canada Creek Project include recreation, hydroelectric generation, and provision of minimum flows downstream for aquatic resources. Minimum flows and aquatic uses are described in Section 4.5 and Section 5.5.4, respectively. Recreation activities are described further in Section 5.9. Erie does not propose to make any changes to the physical nature or operation of the Project that would affect these uses.

5.4.6 WATER QUALITY STANDARDS

The Clean Water Act (CWA) was established in 1972 under the Federal Water Pollution Control Act Amendment and within the CWA, Sections 303 and 305 guide the national program on water quality protection for the United States (USEPA 2018). Water quality standards for the project waters are regulated by the NYSDEC under delegated authority from the U.S. Environmental Protection Agency (USEPA). All waters in New York State are assigned letter classifications that denotes their best uses and letter classes A, B, C and D are assigned to fresh surface waters. Letters assigned with T or TS pertain to trout or trout spawning waters

respectively. The water quality classifications for the West Canada Creek Drainage Basin are identified in NYSDEC's water quality regulations 6 NY-CRR § 880.6 and water quality standards associated with fresh surface waters are provided at 6 NY-CRR §703. Water quality standard regulations were current through September 2017. NYSDEC states that water quality standards regulations (6 NYCRR Parts 700-706) are currently being revised (NYSDEC 2018c).

Table 5-6 summarizes the water quality classifications that are applicable to waters within West Canada Creek directly upstream, within project waters, and downstream of the West Canada Creek Project. Waters upstream of the Project are classified as AA, a source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing. Project waters from Hinckley Dam to Prospect Dam are classified as Class B, best usages of Class B waters are primary and secondary contact recreation and fishing. Project waters from Prospect Dam to Trenton Falls Powerhouse, as well as the reach downstream of the Trenton Falls Project to Kast Bridge are classified as Class C. Class C waters best usage is fishing and is suitable for primary and secondary contact recreation. All the segments are also classified as T for trout waters. Table 5-7 provides a summary of applicable standards for the various parameters for each classification within these specified stream segments.

TABLE 5-6 APPLICABLE WATER QUALITY CLASSIFICATIONS

STREAM SEGMENT	CLASSIFICATION	CLASSIFICATION DESCRIPTION	BEST USAGE
McIntosh Bridge to Hinckley Dam	AA/AA(T)	The best usages of Class AA waters are a source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing. The waters shall be suitable for fish, shellfish and wildlife propagation and survival.	These reaches are also designated as trout waters (T). Any water quality standard, guidance value, or thermal criterion that specifically refers to trout or trout waters applies.
Hinckley Dam to Prospect Dam	B/B(T)	The best usages of Class B waters are primary and secondary contact recreation and fishing. These waters shall be suitable for fish, shellfish and wildlife propagation and survival. (6 CRR-NY 701.5	
Prospect Dam to Trenton Powerhouse	C/C(T)	The best usage of Class C waters is fishing. These waters shall be suitable for fish, shellfish and	

Trenton Powerhouse to Kast Bridge	C/C(T)	wildlife propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.	
Kast Bridge to Confluence with Mohawk River	C/C(T)		

Source: New York State 2018a, 2018b

TABLE 5-7 APPLICABLE WATER QUALITY STANDARDS

PARAMETER	CLASSES	STANDARD
pH	AA, B, C,	Shall not be less than 6.5 nor more than 8.5.
Dissolved oxygen (DO)	AA, B, C	For trout waters (T), the minimum daily average shall not be less than 6.0 mg/L, and at no time shall the concentration be less than 5.0 mg/L.
Dissolved Solids	AA, B, C	Shall be kept as low as practicable to maintain the best usage of waters but in no case shall it exceed 500 mg/L.
Total Coliforms (number per 100 ml)	AA	The monthly median value and more than 20 percent of the samples, from a minimum of five examinations, shall not exceed 50 and 240, respectively.
Total Coliforms (number per 100 ml)	B, C	The monthly median value and more than 20 percent of the samples, from a minimum of five examinations, shall not exceed 2,400 and 5,000, respectively.
Fecal coliforms (number per 100 ml)	B, C,	The monthly geometric mean, from a minimum of five examinations, shall not exceed 200.

Source: New York State 2018c

Key: mg/L milligrams per liter
ml milliliter

5.4.7 EXISTING WATER QUALITY DATA

To fulfill certain requirements of the Federal Clean Water Act, the NYSDEC provides regular, periodic assessments of the water resources quality in the state and the ability of these water resources to support specific uses. As part of this monitoring program the NYSDEC, conducts Rotating Intensive Basin Studies (RIBS) Intensive Monitoring Network designed to monitor the major drainage basins within the state. The RIBS program water quality data supports assessment and management functions within NYSDEC Division of Water, including the inventory of water quality information under the Waterbody Inventory/Priority Waterbodies List,

New York State's Clean Water Act Section 305(b) Water Quality Report, and Section 303(d) List of Impaired Waters for the state (NYSDEC 2018d).

The most recent water quality data for West Canada Creek was collected by the NYSDEC in 2006 as part of the RIBS Intensive Network Monitoring, the results are summarized in the 2010 Waterbody Inventory/Priority Waterbodies List report for the Mohawk River Basin. The 2010 report provides a summary of classifications and assessment; however, empirical datasets used to make these assessments were not provided as part of the report documentation and were not available.

The WI classifies uses for each assessed segment according to the following classifications:

- Impaired - occasional water quality, or quantity, conditions and/or habitat characteristics periodically prevent the use of the waterbody; or waterbody uses are not precluded, but some aspects of the use are limited or restricted; or waterbody uses are not precluded, but frequent/persistent water quality, or quantity, conditions and/or associated habitat degradation discourage the use of the waterbody; or support of the waterbody use requires additional/advanced measures or treatment.
- Stressed - waterbody uses are not significantly limited or restricted, but occasional water quality, or quantity, conditions and/or associated habitat degradation periodically discourage the use of the waterbody.
- Threatened - water quality currently supports waterbody uses and the ecosystem exhibits no obvious signs of stress, however existing or changing land use patterns may result in restricted use or ecosystem disruption; or water quality currently supports waterbody uses and the ecosystem exhibits no obvious signs of stress, however monitoring data reveals a declining trend in water quality which, if it continues, would result in a use impairment; or waterbody uses are not restricted and no water quality problems exists, but the support of a specific and distinctive use or uses make the waterbody more susceptible to water quality threats.

For this inventory, the West Canada Creek watershed is segmented into three sections: upper, middle, and lower watersheds. The West Canada Creek Project area from Hinckley tailwater to Prospect Dam is in the middle watershed segment and is designated as West Canada Creek, middle, main stem with water index No. H-240-180 (portion 3) (NYSDEC 2010). This reach of the creek was classified as impaired for aquatic life and for habitat/hydrology on the Waterbody Inventory, but was not included on NYSDEC's Section 303(d) list of impaired/TMDL waters. Portions of the upper and minor tributaries of West Canada Creek upstream of the Project (water

index No. H-240-180, portion 5 and H-240-180, portion 6), are included on the final 2016 Section 303(d) list due to acid/base (pH) with suspected source of atmospheric deposition (New York State 2016).

Recreational use along this reach was categorized as stressed. Identified impairments included water level, flow, thermal variation, and restricted fish passage and suspected causes included acid/base (pH), silt/sediment (NYSDEC 2010). Project waters (Prospect Dam to Trenton Falls) are within the 15.7-mile reach classified as lower, main stem, and water index No. H-240-180 (portion 2) which extends to Newport, New York. Identified impairments were similar to the upstream reach and include flow, thermal variation, and restricted fish passage and suspected causes included acid/base (pH) (NYSDEC 2010).

The upstream Hinckley Reservoir reach, water index No. H-240-180 (portion 4)/P799, was classified as having minor impacts due to fluctuating water levels and high flushing rates. The inventory noted historical fish survey data revealed poor growth rates in the reservoir which may be attributable to low nutrient levels and sandy substrate that limit the resource. Water quality assessment found no contaminants and the reservoir was designated a Class AA for water, indicating that it is suitable as a drinking water supply. For the reach from Newport to the confluence of the Mohawk River, water index No. H-240-180 (portion 1), identified impairments were similar to the upstream reach and include flow, thermal variation, and restricted fish passage and suspected causes included acid/base (pH) (NYSDEC 2010).

Water quality sampling for these inventory assessments included a biological (macroinvertebrate) survey of West Canada Creek at multiple sites from the mouth in Herkimer to Nobleboro as part of the RIBS Intensive Network monitoring in 2006. Within the middle and lower mainstem segments, the survey included sites in Trenton Falls (at Trenton Falls Road immediately downstream of the West Canada Creek Project), and further downstream at Poland (at Route 200) Newport (at Brown Island), Middleville (at Route 28), Kast Bridge (at West End Road) and Herkimer (at Route 5). Sampling results indicated non-impacted conditions at all except the most upstream site in Nobleboro (upstream of Hinckley Reservoir). The assessment noted that samples were dominated by clean-water species and were most similar to a natural community with minimal human impacts. The assessment noted that aquatic life community was fully supported and that the 2006 results at Trenton Falls were consistent with biological

assessments of West Canada Creek conducted in Trenton Falls in 2000 and 2001 (NYSDEC 2010).

5.4.8 RESERVOIR DATA

Reservoir data for the Prospect development and the Trenton development are summarized in Table 5-8.

TABLE 5-8 PROSPECT AND TRENTON DEVELOPMENT RESERVOIR DATA

RESERVOIR	SURFACE AREA (ACRES)	USEABLE STORAGE CAPACITY (ACRE-FEET)	MIN ELEVATION (FT USGS)	NORMAL MAX ELEVATION (FT USGS)	APPROXIMATE RESERVOIR SHORELINE MILES
Prospect	176	803	1,156.5	1,161.5	6.4 ¹
Trenton	9	155	1,011.9	1,023.9	1.2

¹Estimated shoreline includes 4.7 miles at Prospect impoundment and 1.7 miles at Prospect canal/forebay.

5.4.9 DOWNSTREAM REACH GRADIENTS

The gradient of West Canada Creek below the Project includes low-gradient flatwater riverine conditions downstream about 1 mile to the Nine Mile Creek Feeder Dam and low-to mid-gradient flatwater riverine downstream an additional 13 miles to the Newport Dam.

5.5 FISH AND AQUATIC RESOURCES

5.5.1 EXISTING FISH AND AQUATIC RESOURCES

West Canada Creek is considered one of the most “renowned trout streams” in central New York and is known for providing anglers with good fishing opportunities for brown trout (*Salmo trutta*) and brook trout (*Salvelinus fontinalis*) (NYSDEC 2018e). The reaches upstream of the Hinckley Reservoir flow through the Adirondack Park Reserve where the fishery is managed by NYSDEC for trout, with the occurrence of wild trout streams, ponds and lakes as well as annual brown trout and brook trout stocking in some streams and ponds (HRWG 2008).

Upstream of the Project, within the Hinckley Reservoir, NYSDEC surveys identified a variety of species including golden shiner (*Notemigonus crysoleucas*), fallfish (*Semotilus corporalis*), white sucker (*Castostomus commersonii*), brown bullhead (*Ameiurus nebulosus*), stonecat

(*Noturus flavus*), chain pickerel (*Esox niger*), brown trout, brook trout, rock bass (*Ambloplites rupestris*), pumpkinseed (*Lepomis gibbosus*), smallmouth bass (*Micropterus dolomieu*), largemouth bass (*Micropterus salmoides*), black crappie (*Pomoxis nigromaculatus*) and yellow perch (*Perca flavescens*) in the reservoir. Historically, the Hinckley Reservoir has proved to be a poor fishery, with previous stocking failures of walleye, lake trout, brook trout, rainbow trout and tiger muskellunge (HRWG, 2008). A combination of factors may have contributed to these failures, including a large seasonal water surface elevation fluctuation, poor water chemistry, low nutrient levels, hardness and conductivity, and substrate composition of approximately 80 percent sand (HRWG 2008, NYSDEC 2010).

Prospect Reservoir is stocked with approximately 3,400 brown trout annually by NYSDEC (HRWG, 2008). The trout stocking program has proven successful at Prospect; contributing factors may include the relatively stable water surface elevation and suitability of substrates (e.g. cobble and bolder). In addition to brown trout, Prospect has historically supported a fishery for rainbow trout (*Oncorhynchus mykiss*), and chain pickerel (*Esox niger*) (HOCCP, 1989). During the period from 1988 to 2014, NYSDEC conducted fisheries assemblage surveys from Prospect Reservoir to the mouth of the West Canada Creek and identified the existence of 37 species of fish representing 10 different families.

Among the fish assemblage documented in the West Canada Creek Watershed, only American eel (*Anguilla rostrate*) is the only known diadromous species and needs to move between the marine and freshwater river systems to complete its life cycle. American eel are known to occur in the lower reaches of West Canada Creek, however there are currently no records of eel within or upstream of the Project area (NYPA 2017). Currently, there are no fish passage facilities for eel or any other fish passage at the downstream Nine Mile Feeder Creek, Newport, or Herkimer Dams, or the upstream Jarvis Project (Table 5-9) (NYPA 2017).

TABLE 5-9 FISH SPECIES IN WEST CANADA CREEK FROM PROSPECT RESERVOIR TO THE MOHAWK RIVER

COMMON NAME	FAMILY	GENUS AND SPECIES
American Eel	Anguillidae	<i>Anguilla rostrata</i>
Central Stoneroller	Cyprinidae	<i>Campostoma anomalum</i>
Common Carp	Cyprinidae	<i>Cyprinus carpio</i>
Cutlip Minnow	Cyprinidae	<i>Exoglossum maxillingua</i>
Common Shiner	Cyprinidae	<i>Luxilus cornutus</i>
Golden Shiner	Cyprinidae	<i>Notemigonus crysoleucas</i>
Emerald Shiner	Cyprinidae	<i>Notropis atherinoides</i>
Spottail Shiner	Cypinidae	<i>Notropis hudsonius</i>
Rosyface Shiner	Cyprinidae	<i>Notropis rubellus</i>
Bluntnose Minnow	Cyprinidae	<i>Pimephales notatus</i>
Eastern Blacknose Dace	Cyprinidae	<i>Rhinichthys atratulus</i>
Longnose Dace	Cyprinidae	<i>Rhinichthys cataractae</i>
Creek Chub	Cyprinidae	<i>Semotilus atromaculatus</i>
Fallfish	Cyprinidae	<i>Semotilus corporalis</i>
Longnose Sucker	Catostomidae	<i>Catostomus</i>
White Sucker	Catostomidae	<i>Castostomus commersonii</i>
Northern Hogsucker	Catostomidae	<i>Hypentelium nigricans</i>
Brown Bullhead	Ictaluridae	<i>Ameiurus nebulosus</i>
Stonecat	Ictaluridae	<i>Noturus flavus</i>
Marginated Madtom	Ictaluridae	<i>Noturus insignis</i>
Chain Pickerel	Esocidae	<i>Esox niger</i>
Brown Trout	Salmonidae	<i>Salmo trutta</i>
Brook Trout	Salmonidae	<i>Salvelinus fontinalis</i>
Rainbow Trout	Salmonidae	<i>Oncorhynchus mykiss</i>
Trout-Perch	Percopsidae	<i>Percopsis omiscomaycus</i>
Brook Stickleback	Gasterosteidae	<i>Culaea inconstans</i>
Slimy Sculpin	Cottidae	<i>Cottus cognatus</i>
Rock Bass	Centrarchidae	<i>Ambloplites rupestris</i>
Pumpkinseed	Centrarchidae	<i>Lepomis gibbosus</i>
Bluegill	Centrarchidae	<i>Lepomis macrochirus</i>
Smallmouth Bass	Centrarchidae	<i>Micropterus dolomieu</i>
Largemouth Bass	Centrarchidae	<i>Micropterus salmoides</i>
Black Crappie	Centrarchidae	<i>Pomoxis nigromaculatus</i>
Yellow Perch	Percidae	<i>Perca flavescens</i>
Fantail Darter	Percidae	<i>Etheostoma flabellare</i>
Tessellated Darter	Percidae	<i>Etheostoma olmstedii</i>
Logperch	Percidae	<i>Percina caprodes</i>

Source: NYSDEC Fisheries Surveys 1988-2014 (as cited in NYPA 2017)

5.5.2 STOCKED FISHERY

NYSDEC stocks the West Canada Creek with brook trout and brown trout (stocked as yearlings and two-year olds). Table 5-10 displays the historical brook trout and brown trout stocking information from 2011 to 2017 for West Canada Creek. For the spring stocking, average annual stocking during this period was 9,718 brook trout and 44,327 brown trout. During this period brook trout were stocked in April (21 percent) and May (79 percent), brown trout were stocked in April (43 percent), May (40 percent) and June (17 percent). The average length of spring stocked brook trout and brown trout was 9.3 inches and 9.7 inches, respectively. The NYSDEC stocking summary indicates that in November of 2012, NYSDEC also stocked 315 brown trout that were 21.5 inches in length, and in October of 2014 stocked 1,000 brown trout that were 11.2 inches in length. The NYSDEC stocking information for 2016 did not include any stocking data for West Canada Creek (NYSDEC 2018f).

TABLE 5-10 NYSDEC TROUT STOCKING DATA FROM 2011 TO 2017 FOR WEST CANADA CREEK

YEAR	GENERAL STOCKING LOCATION (TOWNS)	BROOK TROUT	BROWN TROUT	TOTAL
2017	Ohio	10,500	2,810	13,310
	Trenton /Deerfield	0	13,020	13,020
	Fairfield, Herkimer, Newport	0	23,140	23,140
	Total	10,500	38,970	49,470
2016	Ohio	NA	NA	NA
	Trenton /Deerfield	NA	NA	NA
	Fairfield, Herkimer, Newport	NA	NA	NA
	Total	NA	NA	NA
2015	Ohio	6,900	0	6,900
	Trenton /Deerfield	0	16,230	16,230
	Fairfield, Herkimer, Newport	0	30,020	30,020
	Total	6,900	46,250	53,150
2014	Ohio	10,500	2,930	13,430
	Trenton /Deerfield		29,170	29,170
	Fairfield, Herkimer, Newport		14,640	14,640
	Total	10,500	46,740	57,240
2013	Ohio	10,500	2,470	12,970
	Trenton /Deerfield	0	11,600	11,600
	Fairfield, Herkimer, Newport	0	25,780	25,780
	Total	10,500	39,850	50,350

YEAR	GENERAL STOCKING LOCATION (TOWNS)	BROOK TROUT	BROWN TROUT	TOTAL
2012	Ohio	10,090	3,020	13,110
	Trenton /Deerfield	0	14,585	14,585
	Fairfield, Herkimer, Newport	0	31,820	31,820
	Total	10,090	49,425	59,515
2011	Ohio	9,820	2,880	12,700
	Trenton /Deerfield	0	13,330	13,330
	Fairfield, Herkimer, Newport	0	29,830	29,830
	Total	9,820	46,040	55,860

Source: NYSDEC 2018f

¹ 2017 planned stocking, 2016 data not available, 2011-2015 actual stocking

² The Ohio stocking area is upstream of Hinckley Reservoir; the Trenton/Deerfield stocking areas are in the West Canada Creek Project area and downstream of the Project; the Fairfield, Herkimer and Newport stocking areas are located downstream of the Project.

5.5.3 ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act requires the eight regional fishery management councils to identify and specify actions to conserve and enhance essential fish habitat. No designated essential fish habitat under the Magnuson-Stevens Fishery Conservation and Management Act is identified on the West Canada Creek and no species identified by the Middle Atlantic Fishery Management Council are present in the West Canada Creek fish assemblage.

5.5.4 DOWNSTREAM HABITAT AND MINIMUM FLOW ASSESSMENT

The existing West Canada Creek Project FERC license requires a minimum flow of 160 cfs, or inflow to the project as measured immediately downstream of the NYSCC diversion weir for the purposes of protecting and enhancing aquatic resources in West Canada Creek. This minimum flow requirement was assessed in consultation with NYSDEC as part of an instream flow study (Ichthyological Associates, 1981a) and air and water temperature monitoring assessment (Ichthyological Associates, 1981b) conducted during the previous relicensing proceeding. The conclusions and recommendations were summarized in a habitat assessment report (NMPC 1980, NMPC 1981).

The instream flow study objective was to assess and determine the changes in amount of usable fish habitat (weighted usable width) for 6 different flows at three different reaches downstream

of the NYSCC diversion weir. The study applied the incremental method to quantify the usable habitat available for three life stages (adult, juvenile, fry) of the target species. Target species included brown trout for the upstream reaches (Reaches 1 and 2) and brook trout and smallmouth bass for downstream reach (Reach 3). The study assessed six flow releases from the Trenton Station, including: 160 cfs less the canal diversion flow of approximately 75 cfs; and 160, 200, 250, 300 and 350 cfs). Three study reaches were evaluated downstream of Trenton Station, including: Reach 1 (11 transects) at 0.3 miles downstream; Reach 2 (14 transects) at 1.6 miles downstream; and Reach 3 (16 transects) at 23.3 miles downstream. Transect locations were established in consultation with NYSDEC and were located across hydraulic controls (i.e., head of riffle and head of pool) and major habitat types (e.g., riffle, run, pool) (Ichthyological Associates, 1981a).

The instream flow study concluded that the 160 cfs release provided optimal or near optimal flow conditions for all life stages of both brown trout and smallmouth bass. The study found that usable habitat and stream width for adult brown trout remained consistent between 160 cfs and 300 cfs releases. The study found that optimum or near optimum flow was provided for adult, fry and juvenile brown trout at 160 cfs. For Reach 3, the study concluded that usable habitat and stream width was low for both adult and fry smallmouth bass and remained consistent over all releases studied. The study concluded that a minimum release of 160 cfs provided optimum flow for juvenile bass and near optimum flow for fry and adults (Ichthyological Associates 1981a).

Brown trout are the principal sport fish in West Canada Creek below the Project area and generally experience optimal growth and feeding when water temperatures remain below 19 degrees Celsius (C) (66.2 degrees F) (Ichthyological Associates, 1981b, Elliott and Elliott, 2010). Temperature monitoring conducted between June and September 1981 indicated that summer water temperatures were marginal for brown trout growth and feeding in West Canada Creek (Ichthyological Associates, 1981b). Though water temperature may not be optimal for brown trout growth and feeding in West Canada Creek during the summer months, it is generally adequate to support brown trout survival during this period.

5.5.5 FISHING REGULATIONS

The reach of West Canada Creek below Trenton is recognized as one of the top fishing destinations in New York (Erway 2012). Special trout fishing regulations apply to the reach from the Dover Road Bridge (approximately 0.3 miles downstream of Trenton Dam) downstream to the first bridge (Combstock Bridge) below the mouth of Cincinnati Creek. Regulations include year-round fishing, catch and release only (no-take), artificial lure only trout fishing. For Prospect Reservoir trout season is year-round, with minimum length restriction of 12 inches and catch limit of 3, and ice fishing is permitted. For the remainder of West Canada Creek, trout fishing is allowed April 1 through November 30, and there is a catch limit of 5 with no more than 2 longer than 12 inches (NYSDEC 2018g). Section 5.9.3 provides information regarding recreational angling efforts and catch rates based on a 2007 creel survey for the reaches of West Canada Creek downstream of the Project.

5.5.6 BENTHIC MACROINVERTEBRATES

Benthic macroinvertebrate surveys are commonly used to assess stream health or water quality. Within the Mohawk River Basin, and at several sites in the West Canada Creek, the RIBS Intensive Network Monitoring conducted biological (macroinvertebrate) surveys in 2006. The results of these surveys indicated that conditions at all sites within West Canada Creek were non-impacted, which reflects very good water quality and a diverse macroinvertebrate community.

In addition to the 2006 surveys, the NYSDEC Division of Water has since 1972 conducted statewide water quality analysis using benthic macroinvertebrate communities to monitor and assess water quality of New York State streams. Monitoring in 2000 included sampling sites upstream of Hinckley Reservoir and downstream of the Trenton Powerhouse at Poland with all sites listed as non-impacted based on assessment of macroinvertebrate communities. These non-impacted segments reflected very good water quality and were well represented by mayflies, stoneflies and caddisflies. The macroinvertebrate community was characterized as diverse with at least 27 species in riffle habitats (Bode et al 2004).

5.5.7 FRESHWATER MUSSELS

Within the Mohawk River Valley, freshwater mussels were once present in both tributaries of the Mohawk River, the Schoharie Creek and West Canada Creek. According to the Mohawk River Basin Action Agenda, freshwater mussels in the Mohawk River and its tributaries are currently in decline (NYSDEC 2012). As indicated by review of the NYSDEC Natural Heritage database (NYSDEC 2018h) and as indicated by NYSDEC (as cited in NYPA 2017) there are no known records of any freshwater mussel species in the West Canada Creek drainage basin.

5.6 WILDLIFE AND BOTANICAL RESOURCES

The West Canada Creek Project area is part of the Mohawk Valley ecoregion, which is one of the four major hydrologic units that forms the Upper Hudson Basin, along with the Upper Hudson, the Lower Hudson and the Housatonic ecoregions (NYSDEC 2017a). The Mohawk Valley ecoregion is large (5,882 square miles) when compared to the other ecoregions, generally hilly and broad, with the flat Mohawk River floodplain being quite narrow (Bryce et al 2010). Extensive anthropogenic features including navigation canals, channelization, highway, and railroad construction established the Mohawk Valley as a critical transportation link for agricultural and manufacturing industries in New York State (MRWC 2015). Within the vicinity of the Project, the valley is characterized by a thick layer of limestone and shale beds, approximately 90 meters deep. Land cover in the project area is a mix of macrohabitats including hardwood and conifer forests, swamps, agricultural lands, developed land and floodplain areas.

5.6.1 BOTANICAL RESOURCES HABITAT AND SPECIES

According to the Northeast Terrestrial Habitat Map (Ferree and Anderson 2013) the northern extent of the project area around Prospect Reservoir is dominated by northern hardwood and conifer macrogroups. This is a hardwood forest dominated by sugar maple, American beech, and yellow birch with some white ash, hemlock and red spruce trees. The area is categorized as a matrix forest with embedded upland and wetland systems present (The Nature Conservancy 2017). These forests generally occur at low to moderate elevations from 800 to 2,200 feet. There are a variety of plants that can reside within the northern hardwood and conifer forests, such as bristly black currant, broad beech fern, mountain woodfern, pale jewel-weed, squirrel corn, swamp red currants and twinflower (The Nature Conservancy 2017).

Moving south through the project area there is a transition from forests to a mix of agricultural land and developed land. Along these transitions, there are small areas of shrubland and grassland surrounding the creek as well as some northern hardwood swamp and forested swamp habitats. These areas are typically dominated by white cedar and a mix of conifers and deciduous trees such as red maple or black ash with wetlands associated with limestone or calcareous substrates (The Nature Conservancy 2017). Plants common to conifer and hardwood swamps macrohabitats can include bog aster, fairy slipper, green adder's-mouth, hoary willow, Lapland buttercup, Loesel's twayblade, nodding trillium, pink wintergreen, swamp thistle, yellow screwstem and yellow water-crowfoot (The Nature Conservancy 2017).

Intermittent along the creek going downstream are macrohabitats of large river floodplains characterized by complex floodplain forests of silver maple, sycamore, box elder, and cottonwood mixed with herbaceous sloughs, shrub wetlands, ice scours, riverside prairies, and woodlands. Plants within these river floodplain habitats can include basil beebalm, green dragon, Canada moonseed, nodding trillium and smooth burmarigold (The Nature Conservancy 2017).

Spread throughout the project area are cliff and talus macrogroup habitats which make up the gorges within the project area. These sparsely vegetated cliffs are usually comprised of limestone, dolomite, dolostone or any other calcareous bedrock formations (The Nature Conservancy 2017). Table 5-11 provides a summary of botanical species that may be present in these habitats and within the Project vicinity.

TABLE 5-11 LIST OF POTENTIAL BOTANICAL SPECIES IN PROJECT VICINITY

SPECIES	SCIENTIFIC NAME
Sugar Maple	<i>Acer saccharum</i>
Silver Maple	<i>Acer saccharinum</i>
Red Maple	<i>Acer rubrum</i>
Sycamore	<i>Platanus occidentalis</i>
American Beech	<i>Fagus grandifolia</i>
Yellow Birch	<i>Betula alleghaniensis</i>
White Ash	<i>Fraxinus americana</i>
Eastern Hemlock	<i>Tsuga canadensis</i>
Red Spruce	<i>Picea rubens</i>
Balsam fir	<i>Abies balsamea</i>
White cedar	<i>Thuja occidentalis</i>
Box elder	<i>Acer negundo</i>
Cottonwood	<i>Populus deltoides</i>

SPECIES	SCIENTIFIC NAME
Red Oak	<i>Quercus rubra</i>
Wild Black Cherry	<i>Prunus serotina</i>
White Pine	<i>Pinus strobus</i>
Bristly black currant	<i>Ribes lacustre</i>
Broad beech fern	<i>Phegopteris hexagonoptera</i>
Mountain woodfern	<i>Dryopteris campyloptera</i>
Pale jewel-weed	<i>Impatiens pallida</i>
Squirrel corn	<i>Dicentra canadensis</i>
Swamp red currants	<i>Ribes triste</i>
Twinflower	<i>Linnaea borealis</i>

Source: The Nature Conservancy 2017

5.6.2 INVASIVE SPECIES

Invasive species are organisms (plants and animals) that are not native to the aquatic ecosystems and can threaten aquatic ecology, economy, and human health. NYSDEC has established regional partnerships, Partnerships for Regional Invasive Species Management (PRISMs), to provide an integrated and cooperative approach to invasive species management. Partners include federal and state agencies, resource managers, NGO, industry and interested citizens. The PRISMs plan and implement regional invasive species management programs, including surveillance and mapping of invasive species infestations, habitat restoration and monitoring, public outreach and education, and research. There are eight PRISMs formed covering the various regions of New York State, and PRISMS within the Project region include the Saint Lawrence and Eastern Lake Ontario (SLELO) PRISM (includes Oneida County), and the Capital Mohawk PRISM (includes Herkimer County) (NYSDEC 2018i). Each of the PRISMs maintain websites that provide information about the aquatic and terrestrial invasive species of concern, public educational information including methods to help prevent the spread of invasive species, management efforts, and other information regarding the identification, control and management of invasive species within New York State (SLELO 2018, Capital Mohawk PRISM 2018).

Erie maintains signage at the Prospect boat launch area to provide public information about prevention measures for the spread of invasive species. The signage identifies prevention measures including: remove any visible mud, plants, fish or animals before transporting equipment; eliminate water from equipment before transporting, clean and dry anything that

comes into contact with water (boats, trailers, waders, equipment, etc.; and never release plants, fish or animals into body of water unless they came out of that body of water.

5.6.3 TERRESTRIAL WILDLIFE RESOURCES

Potential terrestrial wildlife resources within the Project vicinity were identified based on the known habitat types within the Project vicinity and associated species known to exist in these habitats. Many of these species may or may not be present in the immediate project area but are associated with these macrohabitats categorized along the West Canada Creek.

5.6.3.1 MAMMALS

Mammals in northern hardwood and conifer forests habitats can include the black bear, fisher, gray fox, northern flying squirrel, porcupine, smoky shrew, southern flying squirrel, white footed mouse, and the woodland jumping mouse. Mammals in the conifer and hardwood swamps macrohabitats can include the masked shrew, mink, red-backed vole and the short-tailed shrew. Mammals common to these river floodplain habitats floodplains include big brown bats, eastern pipistrelle, little brown myotis, long-tailed weasel, mink, white-tailed deer, northern short-tailed shrew, raccoon, red bat, river otter, silver-haired bat and Virginia possum (The Nature Conservancy, 2017). Table 5-12 provides a summary of mammals that may be present in these habitats and within the Project vicinity.

TABLE 5-12 LIST OF POTENTIAL MAMMALS IN PROJECT VICINITY

SPECIES	SCIENTIFIC NAME
Marsupials	
Virginia Opossum	<i>Didelphins virginiana</i>
Shrews and Moles	
Masked Shrew	<i>Sorex cinereus</i>
Smokey shrew	<i>Sorex fumeus</i>
Northern Short-tailed shrew	<i>Blarina brevicauda</i>
Bats	
Little brown myotis	<i>Myotis lucifugus</i>
Northern long-eared bat	<i>Myotis septentrionalis</i>
Silver-haired bat	<i>Lasionycteris noctivagans</i>
Eastern Pipistrelle	<i>Pipistrellus subflavus</i>
Big brown bat	<i>Eptesicus fuscus</i>
Eastern red bat	<i>Lasiurus borealis</i>
Rodents	
Southern flying squirrel	<i>Glaucomys volans</i>
Northern flying squirrel	<i>Glaucomys sabrinus</i>

SPECIES	SCIENTIFIC NAME
Woodland jumping mouse	<i>Napaeozapus insignis</i>
White-footed mouse	<i>Peromyscus leucopus</i>
Red-backed vole	<i>Myodes gapperi</i>
Common porcupine	<i>Erethizon dorsatum</i>
Carnivores	
Gray fox	<i>Urocyon cinereoargenteus</i>
Coyote	<i>Canis latrans</i>
Black bear	<i>Ursus americanus</i>
Common raccoon	<i>Procyon lotor</i>
Long-tailed weasel	<i>Mustela frenata</i>
Mink	<i>Mustela vison</i>
Fisher	<i>Martes pennant</i>
River otter	<i>Lutra Canadensis</i>
Even-toed Ungulates	
White-tailed deer	<i>Odocoileus virginianus</i>
Moose	<i>Alces</i>

Source: The Nature Conservancy 2017

5.6.3.2 BIRDS

Within the northern extent of the project area amongst the northern hardwood and conifer forests, associated bird species include the black and white warbler, Blackburnian warbler, black throated blue warbler, black throated green warbler, eastern wood pewee, hermit thrush, northern saw whet owl, ovenbird, pine warbler, ruffed grouse, scarlet tanager, veery and the wood thrush. Associated bird species within the conifer and hardwood swamps macrohabitats include the black-backed woodpecker, Canada warbler, golden crowned kinglet, gray jay, northern waterthrush, palm warbler, red-shouldered hawk, American three-toed woodpecker, veery, white-throated sparrow, wood duck and the yellow-bellied flycatcher. Within the large river floodplain macrohabitats, which make up approximately 142,677 acres of New York State, additional bird species may be observed. These species include the alder flycatcher, bald eagle, cerulean warbler, northern waterthrush, warbling vireo, willow flycatcher, wood duck, yellow warbler and the yellow-throated vireo (The Nature Conservancy 2017). Table 5-13 provides a summary of bird species that may be present in these habitats and within the Project vicinity.

TABLE 5-13 LIST OF POTENTIAL BIRDS IN PROJECT VICINITY

SPECIES	SCIENTIFIC NAME
Black and white warbler	<i>Mniotilta varia</i>
Blackburnian warbler	<i>Setophaga fusca</i>

SPECIES	SCIENTIFIC NAME
Black throated blue warbler	<i>Setophaga caerulescens</i>
Black throated green warbler	<i>Setophaga virens</i>
Eastern wood pewee	<i>Contopus virens</i>
Hermit thrush	<i>Catharus guttatus</i>
Northern saw whet owl	<i>Aegolius acadicus</i>
Ovenbird	<i>Seiurus aurocapillus</i>
Pine warbler	<i>Setophaga pinus</i>
Ruffed grouse	<i>Bonasa umbellus</i>
Scarlet tanager	<i>Piranga olivacea</i>
Veery	<i>Catharus fuscescens</i>
Wood thrush	<i>Hylocichla mustelina</i>
Black-backed woodpecker	<i>Picoides arcticus</i>
Canada warbler	<i>Cardellina canadensis</i>
Golden crowned kinglet	<i>Regulus satrapa</i>
Gray jay	<i>Perisoreus canadensis</i>
Northern waterthrush	<i>Parkesia noveboracensis</i>
Palm warbler	<i>Setophaga palmarum</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
American three-toed woodpecker	<i>Picoides dorsalis</i>
White-throated sparrow	<i>Zonotrichia albicollis</i>
Wood duck	<i>Aix sponsa</i>
Yellow-bellied flycatcher	<i>Empidonax flaviventris</i>
Alder flycatcher	<i>Empidonax alnorum</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Cerulean warbler	<i>Setophaga cerulea</i>
Northern waterthrush	<i>Parkesia noveboracensis</i>
Warbling vireo	<i>Vireo gilvus</i>
Willow flycatcher	<i>Empidonax traillii</i>
Yellow warbler	<i>Setophaga petechia</i>
Yellow-throated vireo	<i>Vireo flavifrons</i>
American crow	<i>Corvus brachyrhynchos</i>
Common raven	<i>Corvus corax</i>
Wild turkey	<i>Meleagris gallopavo</i>
Redtail hawk	<i>Buteo jamaicensis</i>

Source: The Nature Conservancy 2017

5.6.3.3 HERPTILES

Herptiles in the northern hardwood and conifer forests habitats can include the northern red-bellied snake, smooth greensnake and the spring salamander. Conifer and hardwood swamps and river floodplains in the Project vicinity make suitable habitat for a number of herptile species. Table 5-14 includes a list of herptiles historically found in Oneida and Herkimer counties (NYSDEC 2018h).

TABLE 5-14 LIST OF POTENTIAL HERPTILES IN PROJECT VICINITY

SPECIES	SCIENTIFIC NAME
Blanding's Turtle	<i>Emydoidea blandingii</i>
Common Gartersnake	<i>Thamnophis sirtalis</i>
Common Musk Turtle	<i>Sternotherus odoratus</i>
Dekay's Brownsnake	<i>Storeria dekayi</i>
Eastern Ratsnake	<i>Pantherophis spiloides</i>
Eastern Ribbonsnake	<i>Thamnophis sauritus</i>
Milksnake	<i>Lampropeltis triangulum</i>
Northern Watersnake	<i>Nerodia sipedon</i>
Painted Turtle	<i>Chrysemys picta</i>
Red-bellied Snake	<i>Storeria occipitomaculata</i>
Ring-necked Snake	<i>Diadophis punctatus</i>
Smooth Green Snake	<i>Opheodrys vernalis</i>
Snapping Turtle	<i>Chelydra serpentina</i>
Spiny Softshell	<i>Apalone spinifera</i>
Spotted Turtle	<i>Clemmys guttata</i>
Wood Turtle	<i>Glyptemys insculpta</i>
Allegheny Mountain Dusky Salamander	<i>Desmognathus ochrophaeus</i>
American Toad	<i>Anaxyrus americanus</i>
Blue-spotted Salamander	<i>Ambystoma laterale</i>
Bullfrog	<i>Lithobates catesbeianus</i>
Dusky Salamander	<i>Desmognathus fuscus</i>
Eastern Newt	<i>Notophthalmus viridescens</i>
Four-toed Salamander	<i>Hemidactylium scutatum</i>
Gray Treefrog	<i>Hyla versicolor</i>
Green Frog	<i>Lithobates clamitans</i>
Jefferson Salamander	<i>Ambystoma jeffersonianum</i>
Jefferson Salamander Complex	<i>Ambystoma jeffersonianum x laterale</i>
Mink Frog	<i>Lithobates septentrionalis</i>
Mudpuppy	<i>Necturus maculosus</i>
Northern Leopard Frog	<i>Lithobates pipiens</i>
Northern Slimy Salamander	<i>Plethodon glutinosus</i>
Northern Two-lined Salamander	<i>Eurycea bislineata</i>
Pickereel Frog	<i>Lithobates palustris</i>
Redback Salamander	<i>Plethodon cinereus</i>
Spotted Salamander	<i>Ambystoma maculatum</i>
Spring Peeper	<i>Pseudacris crucifer</i>
Spring Salamander	<i>Gyrinophilus porphyriticus</i>
Wood Frog	<i>Lithobates sylvaticus</i>

Source: NYSDEC, 2018h

5.7 WETLANDS, RIPARIAN, AND LITTORAL RESOURCES

The USFWS National Wetlands Inventory (NWI) provides a publicly available resource of abundance, distribution and characteristics of United States wetlands. The NWI database (USFWS, 2017a) identifies two NWI identified wetland features within the Project boundary, and six NWI identified wetland features within 1,000 feet of the Project boundary (Table 5-15 and Figure 5-6). Total NWI wetland area within 1,000 feet of the Project boundary encompasses 44.5 acres with 0.19 acres inside the Project Boundary. In addition to the USFWS NWI database, the NYSDEC environmental resource mapper (NYSDEC 2018j) provides information about the distribution and characteristics of state regulated wetlands. The NYSDEC regulated wetlands within the general vicinity of the Project include five wetlands (R-32 – Class 2, 29.4 acres, HY-1 – Class 3, 35.2 acres, RN-2, Class 3, 13.9 acres, RN-1- Class 3 – 44 acres, and R-38, Class 4, 86.6 acres) encompassing a total of 209.1 acres⁶ (NYSDEC 2018j).

Riparian areas within the Project boundary are dominated by steep limestone cliffs and gorges with several drops in elevation from Prospect to Trenton Falls. The land along the banks of the creek can consist of multiple deeply incised valley walls that are nearly vertical in some places, exposing the strata of the Trenton limestone formations (Cornell and Brett 2001).

5.7.1 WETLAND, RIPARIAN, AND LITTORAL HABITATS

Wetland habitats adjacent to the project area can be home to a variety of species as discussed in Section 5.6. Riparian areas along West Canada Creek do not provide much habitat for many species because they consist primarily of rock formations with steep vertical cliffs along the banks of the gorge and a series of waterfalls and associated drops in elevation along the creek length from below Prospect Reservoir to below the Trenton project tailrace. Littoral zones consist of broad faced limestone ledges which typically provides limited habitat for both aquatic and terrestrial species.

⁶ The New York State identified wetland acreages within the general vicinity of the project include portions of which occur outside of 1,000 feet of the project boundary.

TABLE 5-15 INVENTORY OF NWI WETLANDS WITHIN OR ADJACENT TO THE PROJECT

NWI CLASSIFICATION	TOTAL WETLAND AREA (ACRES)	AREA WITHIN 1,000 FEET OF PROJECT BOUNDARY (ACRES)	AREA WITHIN PROJECT BOUNDARY (ACRES)	SYSTEM/SUBSYSTEM	CLASS	SUBCLASS	WATER REGIME
PFO1E	8.54	8.54	0.06	Palustrine	Forested	Broad-Leaved Deciduous	Seasonally Flooded/Saturated
PFO1/EM1A	2.47	2.47	0.13	Palustrine	Forested/ Emergent	Broad-Leaved Deciduous/ Persistent	Temporary Flooded
PSS1E	14.90	3.33	0	Palustrine	Scrub-Shrub	Broad-Leaved Deciduous	Seasonally Flooded/Saturated
PFO1/SS1E	18.58	5.93	0	Palustrine	Forested/ Scrub-Shrub	Broad-Leaved Deciduous/ Broad-Leaved Deciduous	Seasonally Flooded/Saturated
PFO1E	5.16	5.16	0	Palustrine	Forested	Broad-Leaved Deciduous	Seasonally Flooded/Saturated
PEM1/FO1E	3.93	3.93	0	Palustrine	Emergent/ Forested	Persistent/ Broad-Leaved Deciduous	Seasonally Flooded/Saturated
PFO4/1E	12.45	12.45	0	Palustrine	Forested	Needle-Leaved Evergreen; Broad-Leaved Deciduous	Seasonally Flooded/Saturated
PFO4/1E	6.12	2.67	0	Palustrine	Forested	Needle-Leaved Evergreen; Broad-Leaved Deciduous	Seasonally Flooded/Saturated

Source: USFWS 2017a

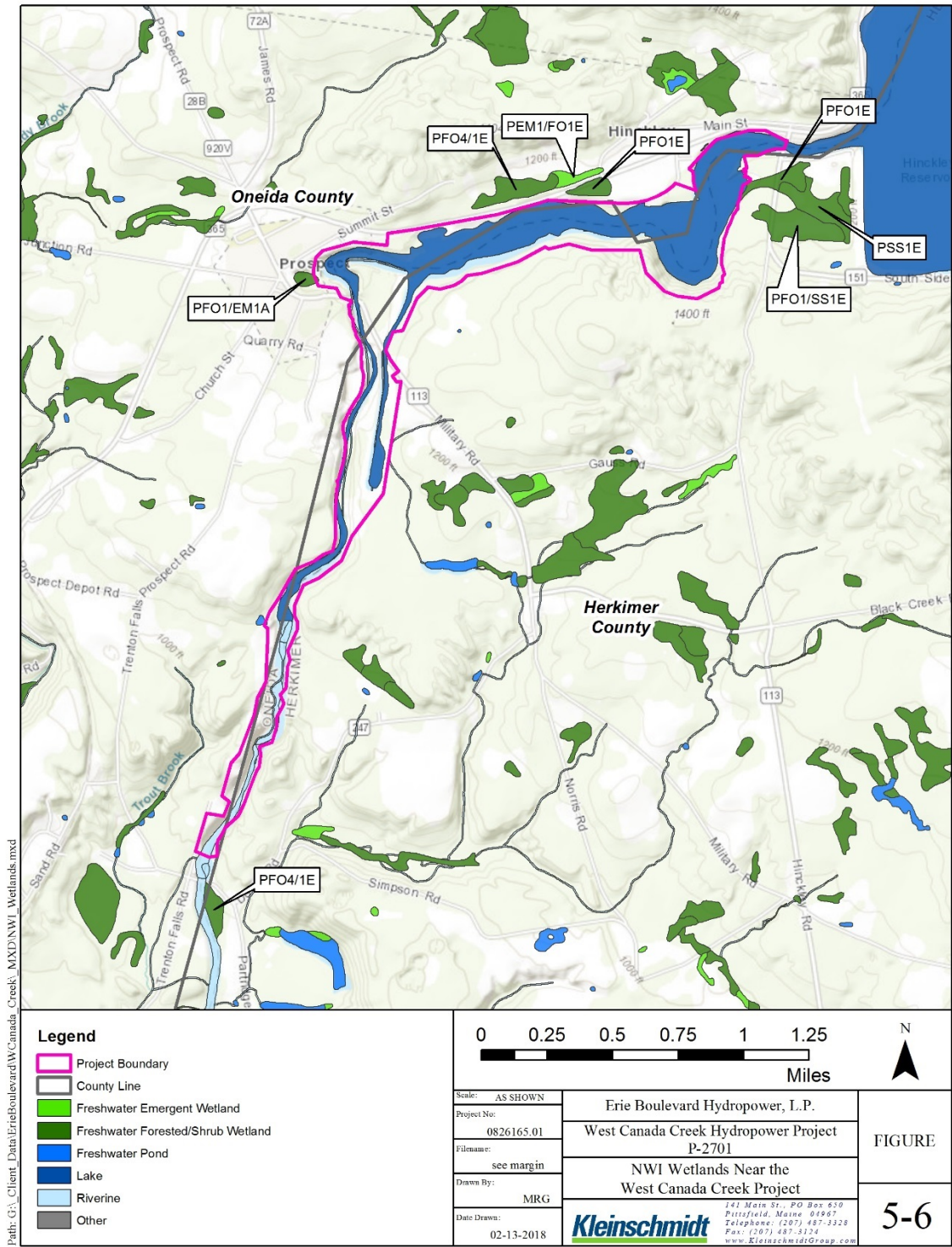


FIGURE 5-6 NWI WETLANDS NEAR THE WEST CANADA CREEK PROJECT

5.7.2 WETLAND AND RIPARIAN WILDLIFE

Wetlands and riparian habitats support many varieties of mammal, bird, reptiles and amphibian species. Many of the species identified in Section 5.6 are likely to occur within and depend on these habitats during their life cycle.

5.8 RARE, THREATENED, AND ENDANGERED SPECIES

5.8.1 FEDERAL AND STATE LISTED SPECIES IN PROJECT VICINITY

The Federal Endangered Species Act of 1973 (ESA), as amended (16 USC 1531–1544) requires the U.S. Department of the Interior to identify species as endangered or threatened for the purpose to protect and recover imperiled species and the ecosystems upon which they depend. Under the ESA, species may be listed as either endangered or threatened and essential areas for survival of species can be listed as critical habitat.

The USFWS Environmental Conservation Online System (USFWS 2017b) for Oneida and Herkimer counties in New York, and the USFWS New York Ecological Services Field Office Species List (USFWS 2018), were reviewed and consultation with the USFWS was initiated via the ECOS-IPaC site (USFWS 2018b) to identify threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the Project boundary and/or may be affected by the Project. The USFWS identified one threatened, endangered, or candidate species, the northern long-eared bat (*Myotis septentrionalis*) as a federally threatened species, and no critical habitats within the Project area (USFWS 2018b, see Appendix C). The northern long-eared bat may not reside in the immediate project area; however, there have been known occurrences in both Oneida and Herkimer counties which are bisected by the West Canada Creek. The northern long-eared bat is a medium sized (3 to 3.7 inches in length) bat with a wingspan of 9 to 10 inches. It is found across the majority of the eastern and central northern United States as well as all Canadian provinces (USFWS 2017b).

Table 5-16 lists the federal migratory species of concern that may occur within the Project Vicinity (USFWS 2018b). The NYSDEC indicated that a known pair of breeding bald eagles is known to frequent the Project area (correspondence from Todd Philips, NYSDEC in response to the PAD questionnaire). Based on the breeding seasons on the species, most would have a

probability of presence between May and October. The bald eagle, golden eagle and snowy owl are outliers showing probabilities of presence year-round for the bald eagle, January to October for the golden eagle, and November to April for the snowy owl.

TABLE 5-16 FEDERAL LIST OF MIGRATORY SPECIES OF CONCERN THAT MAY OCCUR IN THE PROJECT VICINITY

SPECIES	SCIENTIFIC NAME	BREEDING SEASON
American Golden-plover	<i>Pluvialis dominica</i>	Breeds elsewhere
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Breeds Dec 1 to Aug 31
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	Breeds May 15 to Oct 10
Bobolink	<i>Dolichonyx oryzivorus</i>	Breeds May 20 to Jul 31
Cerulean Warbler	<i>Dendroica cerulea</i>	Breeds Apr 20 to Jul 20
Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	Breeds May 1 to Aug 20
Golden Eagle	<i>Aquila chrysaetos</i>	Breeds Jan 1 to Aug 31
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	Breeds May 1 to Jul 20
Henslow's Sparrow	<i>Ammodramus henslowii</i>	Breeds May 1 to Aug 31
Lesser Yellowlegs	<i>Tringa flavipes</i>	Breeds elsewhere
Long-eared Owl	<i>asio otus</i>	Breeds Mar 1 to Jul 15
Prairie Warbler	<i>Dendroica discolor</i>	Breeds May 1 to Jul 31
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	Breeds May 10 to Sep 10
Semipalmated Sandpiper	<i>Calidris pusilla</i>	Breeds elsewhere
Short-billed Dowitcher	<i>Limnodromus griseus</i>	Breeds elsewhere
Snowy Owl	<i>Bubo scandiacus</i>	Breeds elsewhere
Wood Thrush	<i>Hylocichla mustelina</i>	Breeds May 10 to Aug 31

Source: USFWS 2018b

A review of the NYSDEC list of endangered, threatened and special concern fish species for New York (NYSDEC 2017b), the Natural Heritage Program's Rare Animal Status List (NYSHPL 2017), the USFWS Environmental Conservation Online System (USFWS 2017b), and the USFWS New York Ecological Services Field Office Official Species List (USFWS 2018a) indicates that no state-listed endangered, threatened, or any species of special concern are known to occupy the Project area.

The NYSDEC Nature Explorer Program (NYSDEC 2017c) lists five New York State listed threatened or endangered plant species that historically occurred within the immediate project vicinity, but that have no recent documentation of occurrence (Table 5-17). For all plant species

identified, the most recent records date back to 1965 when the Straight-leaf Pondweed was last observed. The Soft Fox Sedge has been absent from the project area the longest and was last documented in 1888.

TABLE 5-17 HISTORICALLY STATE LISTED THREATENED, AND ENDANGERED PLANTS IN THE PROJECT VICINITY

COMMON NAME	SCIENTIFIC NAME	YEAR LAST DOCUMENTED	STATE PROTECTION STATUS	CONSERVATION STATUS	
				STATE ¹	FEDERAL ²
Rock-cress	<i>Draba arabisans</i>	-	Threatened	S2	G4
Schweinitz's Sedge	<i>Carex schweinitzii</i>	1904	Threatened	S2S3	G3G4
Soft Fox Sedge	<i>Carex conjuncta</i>	1888	Endangered	SH	G4G5
Spurred Gentian	<i>Halenia deflexa</i>	1902	Endangered	S1	G5
Straight-leaf Pondweed	<i>Potamogeton strictifolius</i>	1965	Endangered	S1	G5

Source: NYSDEC 2017c

¹S1 - Critically Imperiled, S2 – Imperiled, S3 – Vulnerable, SH - Historical in New York, not seen in last 30 years but could still be present

²G3 - Vulnerable (moderate risk of extinction), G4 - Apparently Secure, G5 - Definitely Secure.

Other New York State listed endangered and threatened species or species of special concern are known to occur or have historically occurred in Herkimer and Oneida counties, although not necessarily within the Project boundary. Table 5-18 lists these species (NYSDEC 2017c).

TABLE 5-18 STATE LISTED THREATENED, AND ENDANGERED SPECIES IN HERKIMER AND ONEIDA COUNTIES

COMMON NAME	SCIENTIFIC NAME	YEAR LAST DOCUMENTED	STATE PROTECTION STATUS	CONSERVATION STATUS		COUNTY
				STATE1	FEDERAL2	
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Historically Confirmed	Threatened	S1	G1G2	Oneida/Herkimer
Bald Eagle	<i>Haliaeetus leucocephalus</i>	2016	Threatened	S2S3B S2N	G5	Oneida/Herkimer
Golden Eagle	<i>Aquila chrysaetos</i>	2000-2005	Endangered	SHB S1N	G5	Herkimer
Black Tern	<i>Chlidonias niger</i>	1969	Endangered	S2B	G4	Oneida
Common Tern	<i>Sterna hirundo</i>	Historically Confirmed	Threatened	S3B	G5	Oneida
Least Bittern	<i>Ixobrychus exilis</i>	2013	Threatened	S3B S1N	G5	Oneida/Herkimer
Loggerhead Shrike	<i>Lanius ludovicianus</i>	2000-2005	Endangered	S1B	G4	Oneida
Northern Harrier	<i>Circus cyaneus</i>	2004	Threatened	S3B S3N	G5	Oneida/Herkimer
Peregrine Falcon	<i>Falco peregrinus</i>	2009	Endangered	S3B	G4	Oneida/Herkimer
Pied-billed Grebe	<i>Podilymbus podiceps</i>	2000	Threatened	S3B S1N	G5	Oneida/Herkimer
Sedge Wren	<i>Cistothorus platensis</i>	Historically Confirmed	Threatened	S3B	G5	Oneida/Herkimer
Short-eared Owl	<i>Asio flammeus</i>	2014	Endangered	S2	G5	Oneida/Herkimer
Upland Sandpiper	<i>Bartramia longicauda</i>	2017	Threatened	S3B	G5	Oneida/Herkimer
Round Whitefish	<i>Prosopium cylindraceum</i>	2010	Endangered	S1S2	G5	Herkimer
Blanding's Turtle	<i>Emydoidea blandingii</i>	1990-1999	Threatened	S2S3	G4	Oneida
Spiny Softshell	<i>Apalone spinifera</i>	2000	Special Concern	S2S3	G5	Oneida
Lake Sturgeon	<i>Acipenser fulvescens</i>	1970	Threatened	S2S3	G3G4	Oneida
Frosted Elfin	<i>Callophrys irus</i>	2015	Threatened	S1S2	G3	Oneida
Karner Blue Butterfly	<i>Plebejus melissa samuelis</i>	1970	Endangered	S1	G5T2	Oneida
Henslow's Sparrow	<i>Ammodramus henslowii</i>	Recently Confirmed	Threatened	S3B	G4	Oneida/Herkimer
Bird's Eye Primrose	<i>Primula mistassinica</i>	1993	Threatened	S2	G5	Oneida
Broad-lipped Twayblade	<i>Neottia convallarioides</i>	Not Confirmed	Endangered	S1	G5	Oneida/Herkimer

COMMON NAME	SCIENTIFIC NAME	YEAR LAST DOCUMENTED	STATE PROTECTION STATUS	CONSERVATION STATUS		COUNTY
				STATE ¹	FEDERAL ²	
Dragon's Mouth Orchid	<i>Arethusa bulbosa</i>	Historically Confirmed	Threatened	S2	G5	Oneida
Goldenseal	<i>Hydrastis canadensis</i>	Not Confirmed	Threatened	S2	G3G4	Oneida/Herkimer
Hooker's Orchid	<i>Platanthera hookeri</i>	1926	Endangered	S1	G4	Oneida
Large Twayblade	<i>Liparis liliifolia</i>	Not Confirmed	Endangered	S1	G5	Oneida
Orange Fringed Orchid	<i>Platanthera ciliaris</i>	1902	Endangered	S1	G5	Oneida
Pinedrops	<i>Pterospora andromedea</i>	Historically Confirmed	Endangered	S1	G5	Oneida
Puttyroot	<i>Aplectrum hyemale</i>	1882	Endangered	S1	G5	Oneida
Ram's-head Lady's Slipper	<i>Cypripedium arietinum</i>	1924	Threatened	S2	G3	Oneida/Herkimer
Southern Twayblade	<i>Neottia bifolia</i>	1930	Endangered	S1S2	G4	Oneida
Yellow Mountain Saxifrage	<i>Saxifraga aizoides</i>	1993	Threatened	S2	G5	Oneida
Blunt-lobed Grape Fern	<i>Botrychium oneidense</i>	Historically Confirmed	Threatened	S2S3	G4	Oneida/Herkimer
Climbing Fern	<i>Lygodium palmatum</i>	1994	Endangered	S1	G4	Oneida
Common Moonwort	<i>Botrychium neolunaria</i>	Historically Confirmed	Endangered	S1	GNR	Oneida
Mingan Moonwort	<i>Botrychium minganense</i>	Not Confirmed	Endangered	S1	G4G5	Oneida
Rugulose Grape Fern	<i>Botrychium rugulosum</i>	1906	Endangered	S1	G3	Oneida/Herkimer
Smooth Cliff Fern	<i>Woodsia glabella</i>	Historically Confirmed	Endangered	S1	G5	Herkimer

Source: NYSDEC 2017c

¹S1 - Critically Imperiled, S2 – Imperiled, S3 – Vulnerable, SH - Historical in New York, not seen in last 30 years but could still be present

²G3 - Vulnerable (moderate risk of extinction), G4 - Apparently Secure, G5 - Definitely Secure.

5.8.2 TERRESTRIAL HABITAT REQUIREMENTS

The Rock-cress (*Draba arabisans*) is a perennial species native to the north-northeastern portions of the United States and throughout eastern Canada. It is a rare plant native to cliffs, talus, river ledges and highlands on bedrock (Go Botany 2017). Schweinitz's sedge (*Carex schweinitzii*) is a perennial plant found throughout the eastern parts of the United States and Canada. It is an obligate wetland plant with a hydrophyte designation, meaning it is almost always found in wetlands. Soft fox sedge (*Carex conjuncta*) is a perennial plant native to central and eastern United States. This species is facultative, which allows it to occur in wetland and non-wetland habitats (USDA 2017). The Spurred gentian (*Halenia deflexa*) is native to the northern United States and all of Canada. Its habitat consists of anthropogenic or disturbed areas, forested edges, meadows and fields and is characterized as a facultative species (Go Botany 2017; USDA 2017). Straight-leafed pondweed (*Potamogeton strictifolius*) is native to the northern United States and all of Canada. It is a perennial plant, and is characterized as an aquatic species, usually its leaves are all submerged under water (Go Botany 2017).

The northern long-eared bat (*Myotis septentrionalis*) spends winter hibernating in caves or mines, known as hibernacula. They prefer areas with constant temperatures and high humidity with little to no air flow (USFWS 2017b). Inside the hibernacula, northern long-eared bats are known to stay in small cracks and crevices, only exposing their nose and ears. During the summer months, males and females are known to roost, most often in cool places within live or dead trees (USFWS 2017b). There have been some cases where bats will roost inside structures such as barns or sheds.

5.8.3 CRITICAL HABITAT

A search within the USFWS's Environmental Conservation Online System (USFWS 2017b) was conducted to identify any critical habitat within the project area, and consultation with the USFWS was initiated via the ECOS-IPaC site (USFWS 2018b) to identify threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the Project boundary and/or may be affected by the Project. The USFWS identified no federally listed critical habitats within the Project area (USFWS 2018b).

5.9 RECREATION AND LAND USE

Beginning with its headwaters in the southeastern Adirondacks, West Canada Creek offers renowned trout fishing opportunities and other numerous recreation opportunities including boating, tubing, rafting, and swimming at various points throughout its length. West Canada Creek runs through a variety of Adirondack Park lands and town centers, providing an assortment of recreation opportunities for the public. The West Canada Creek Project is not located within Adirondack Park, but is located only a few miles outside of its boundary.

Encompassing one-third of the total land area of New York State, Adirondack Park is home to the largest publicly protected area in the lower 48 states (Adirondack Regional Tourism Council 2017a). The Adirondack Park was created in 1892 by the State of New York amid concerns for water and timber resources in the region (Adirondack Park Agency 2017b). The boundary of the Adirondack Park encompasses 6 million acres, nearly half of which belongs to the people of New York State and is constitutionally protected to remain forever wild. The remaining half of the Adirondack Park is private land which includes settlements, farms, timber lands, businesses, homes, and camps. Adirondack Park is unique with its intricate mixture of public and private lands (Adirondack Park Agency 2017b).

5.9.1 REGIONAL RECREATION OPPORTUNITIES

New York's Adirondack Region offers a plethora of opportunities for recreationalists and is an accessible and popular destination for outdoor enthusiasts (Adirondack Regional Tourism Council 2017a). The Adirondack Region has over 3,000 lakes, 30,000 miles of rivers and streams, and a wide variety of habitats, including globally unique wetland types and old growth forests (Adirondack Park Agency 2017b).

The Adirondack Park and the general Adirondack Region caters to tourism and offers opportunities including but not limited to: camping, hiking, mountaineering, whitewater rafting, kayaking/canoeing, motor boating, water skiing and wake boarding, scuba diving, nature photography, fishing, picnicking, horseback riding, scenic drives, biking, golf, birding, rock climbing, snowmobiling, ice skating, downhill skiing, snowshoeing, cross country skiing, hunting, golf, leaf peeking, swimming, and brewery and winery tours (NYOPRHP 2017). Adirondack Park itself offers over 2,000 miles of hiking trails and is home to 42 of the 46

Adirondack High Peaks, including Mount Marcy, the highest Adirondack Peak at 5,344 feet (Adirondack.net 2017).

In addition to Adirondack Park, which offers a multitude of recreational opportunities just a couple miles northeast of the Project, the upstream Hinckley Reservoir offers recreationalists the opportunity to fish, boat, swim, camp, and partake in assorted beach and picnic related activities. Public recreation access sites at Hinckley Reservoir include the Hinckley Reservoir Picnic Area (NYSDEC Day Use Area); a seasonal, day use boat launch; and several campground facilities, such as the Trails End Campground and Camp Northwood (NYPA 2017, Camp Northwood 2017, Trails End Campground 2017). The NYSDEC Day-Use Area is managed by the NYSDEC as a day use, seasonal picnic area along the shoreline of Hinckley Reservoir (NYSDEC 2017d).

State forests within the project vicinity include the Black River Wild Forest and the Hinckley State Forest. The NYSDEC Black River Wild Forest resides within Adirondack Park and is open year-round to recreationists. The 127,135-acre Forest abuts the Hinckley Reservoir and offers a broad spectrum of seasonal recreational opportunities including: hiking trails, camping, canoeing/kayaking, mountain biking, fishing, hunting and trapping, snowmobiling, cross country skiing, snowshoeing, horseback riding, picnicking, and an American Disabilities Act (ADA) assessible campsite, boat launch, and picnic site (NYSDEC 2017e). The NYSDEC Hinckley State Forest is located just over a mile due east of Prospect Dam and outside of Adirondack Park. The 1,590-acre forest is open year-round and offers 6.5 miles of hiking trails, primitive camping, hunting and trapping, and snowmobiling (NYSDEC 2017f).

Public recreation areas in close proximity to the West Canada Creek Project, but located outside of the Project boundary, include the Prospect Village Park and Overlook, the Town of Trenton Fernwood Trail, and recreational trail near the Nine Mile Creek Feeder Dam. The Prospect Village Park includes a small park and picnic area with an overlook platform in the center of town for viewing West Canada Creek just downstream of the Prospect tailrace area. The overlook is situated outside of the Project boundary and the public may picnic or sightsee at this location.

The Fernwood Trail is a Town of Trenton trail located off the Trenton Falls-Prospect Road, just south of Prospect Village (Town of Trenton 2007). The trail is located on property occupied by

the MVWA. The wooded tail provides access to an unusual concentration and variety of woodland ferns. The Town of Trenton Canalway Trail extends along portions of the NYSCC property associated with the Nine Mile Creek Feeder Dam. The NYSCC property begins at the Nine Mile Creek Feeder Dam and runs south southwest approximately 6 miles to Nine Mile Creek (Town of Trenton 2007). The Town of Trenton received a Use and Occupancy Permit from NYSCC in 2006 to build and operate a recreational trail on the NYSCC property. The south end of this property has been developed with recreational trails.

5.9.2 PROJECT RECREATION FACILITIES AND OPPORTUNITIES

Recreation opportunities at the West Canada Creek Project include hiking, boating, fishing, sightseeing, and picnicking. Public recreational access at the project includes a formal boat launch at Prospect Reservoir, and recreational trail at the Trenton Development during specified weekends for special event access and aesthetic viewing opportunities of the Trenton Falls Gorge. Figure 5-7 provides the location of these facilities and the following sections describe the recreation access and opportunities at both Project Developments in more detail.

5.9.2.1 PROSPECT DEVELOPMENT

Erie owns and maintains a formal public boat launch and parking area to provide access to the Prospect impoundment. The boat launch is available to both motor (restricted to 10 hp and no jet skis) and non-motor boats and provides a turnaround drive to assist vehicles with trailers. The boat launch is located on the west side of the impoundment, approximately 1,000-feet upstream from the Prospect Dam and is accessible from State Route 365 (see Photo 5-1 and Photo 5-2).

Approximately 50 percent of the Prospect impoundment is accessible from State Route 365 and Church Street; the remainder of the impoundment along the south shore is inaccessible due to rough terrain. A number of informal access areas over Project and private lands exist and provide opportunities for car-top boating, fishing, and other day use activities. Much of the recreation activity in Prospect impoundment is attributable to the sport fishery resource consisting principally of chain pickerel and stocked trout.

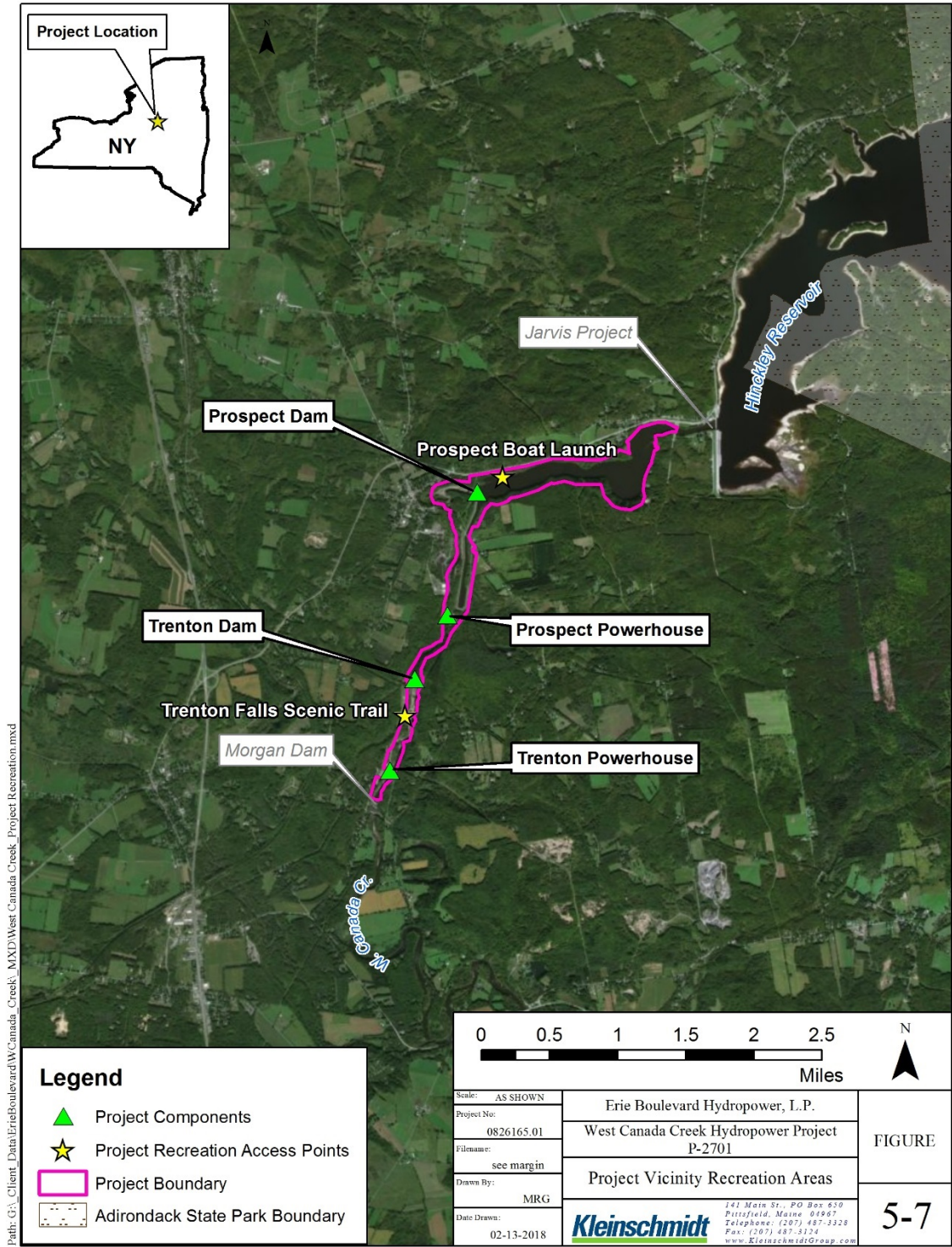


FIGURE 5-7 PROJECT RECREATION FACILITIES



PHOTO 5-1 PROSPECT BOAT LAUNCH



PHOTO 5-2 PROSPECT BOAT LAUNCH

No formal access to the bypass reach between the Prospect Dam and the powerhouse is available due to the steep nature of the stream banks and private ownership of the adjacent lands. The area in the immediate vicinity of the Prospect powerhouse is considered unsafe for outdoor recreational purposes. The very steep embankments and presence of the project facilities necessitate public access restrictions near the powerhouse and associated civil works.

5.9.2.2 TRENTON DEVELOPMENT

The Trenton impoundment is located within the vertical rock-walled Trenton Falls Gorge and is inaccessible except at the west dam abutment. Access at the Trenton dam is limited strictly to operating personnel for safety reasons.

Erie, in partnership with the Town of Trenton, provides controlled public access to view the scenic Trenton Falls Gorge for 1 or 2 weekends in the spring and the fall annually since 2007. Erie coordinates with the Town of Trenton to schedule the number and timing of the public access weekends. Erie, in collaboration with the Town of Trenton, developed and implemented scenic viewing trails to enhance these public viewing opportunities, outside of the existing license requirements (see Figure 5-8).

The primary 0.75-mile-long trail (stone dust) takes visitors from Erie's entrance/parking area to the Trenton Falls Dam overlook and provides scenic overlooks, information panels, as well as an ADA compliant parking area (see Photo 5-3, Photo 5-4, and Photo 5-5). A series of information panels along this trail provide overview of the area's rich history with the use of information panels and demarcation of points of historic interest (see Photo 5-6 and Photo 5-7).

The primary trail provides public access in areas of steep terrain providing views of the Trenton Falls Gorge and associated scenic waterfalls. The trail passes adjacent to project facilities, and traverses along sections of the project penstock. In addition, due to the type and steep rock walls of the gorge area, loose falling rocks can occur along the trailway. Accordingly, Erie routinely prior to allowing public access to these viewing events, conducts safety inspections of the trailway. If sections of the trail are considered dangerous due to safety concerns, those sections may be restricted from public access.

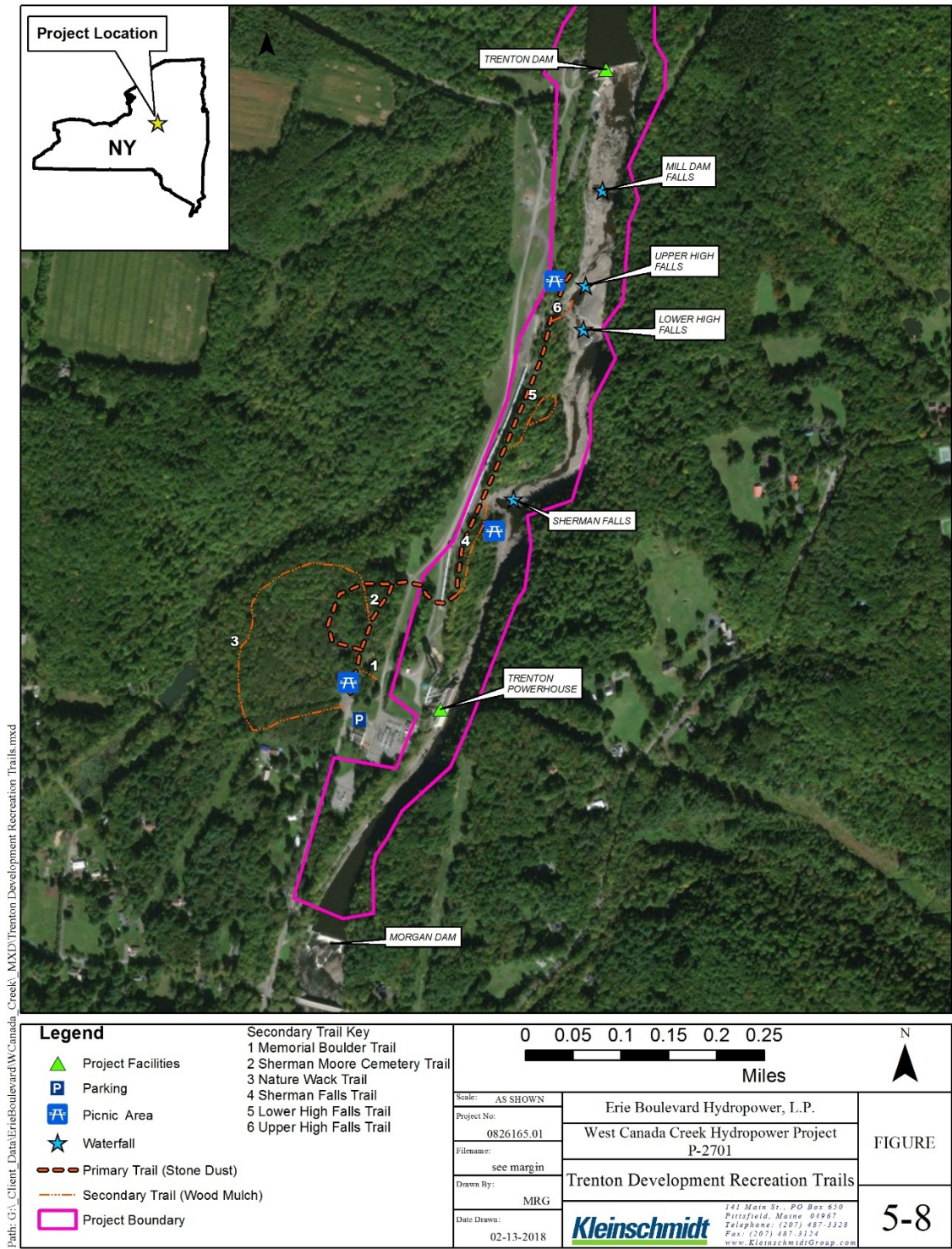


FIGURE 5-8 TRENTON DEVELOPMENT RECREATION TRAILS



PHOTO 5-3 TRENTON FALLS SCENIC TRAIL PARKING AND ADA ACCESSIBLE OVERLOOK AREA



PHOTO 5-4 TRENTON FALLS SCENIC TRAIL



PHOTO 5-5 ONE OF SEVERAL OUTLOOKS FOR VIEWING TRENTON FALLS



PHOTO 5-6 TRENTON FALLS SCENIC TRAIL INFORMATIONAL SIGN #1



PHOTO 5-7 TRENTON FALLS SCENIC TRAIL INFORMATIONAL SIGN #2

In addition to the primary trail, there are two secondary trails (wood mulch) (Lower High Falls Trail and Upper High Falls Trail), that provide views of the lower high falls and upper high falls, totaling about 0.5 miles in length. An additional four secondary trails (wood mulch) provide a combined approximate 0.6 mile-length of trails through a wooded and meadow landscape and a picnic area in the general vicinity of the Primary trail (see Figure 5-8). These trails traverse along adjacent areas of historic interest, such as the site of the historic Trenton Falls Hotel, where a historic marker commemorates the Secretary of State Seward's 1863 meeting with representatives of other nations during the Civil War period.

Trail opening schedules are coordinated by Erie and the Town of Trenton and posted on the Town of Trenton's website annually. Trails are open from 9 am to 5 pm on specific, scheduled dates only (Town of Trenton 2017). This experience allows residents and tourists to safely view and experience the scenic vistas of Trenton Falls Gorge during both the spring and fall periods. During these events local community groups and individuals coordinate to provide historic and natural history information and sell refreshments to support this community event.

For the remainder of the year, Erie maintains fencing at key access points to restrict public access along the Trenton Falls Gorge and to Project facilities due to public safety considerations.

The Licensee additionally works with local law enforcement and first responders to restrict access due to hazards and difficulties with rescue.

5.9.3 DOWNSTREAM RECREATION OPPORTUNITIES

Downstream of the Trenton Development, below the NYSCC Nine Mile Creek Feeder Dam, recreation opportunities along West Canada Creek include angling, whitewater boating, tubing and camping opportunities. Adjacent to the Dover Road Bridge is a privately owned informal access point and parking area for fishermen and other recreationalists. For fishing access, the NYSDEC identifies approximately 26 miles of accessible stream frontage and 11 parking lots that provide easy access to West Canada Creek (NYSDEC 2018e). In addition, downstream, just north of the Village of Poland, the West Canada Creek Campsites provide campground facilities as well as tubing and whitewater boating (kayak and canoe) rentals and shuttle services for boating sections of the West Canada Creek between the NYSCC Nine Mile Creek Feeder Dam and the takeout near the campground (West Canada Creek Campsites 2018, West Canada Creek Tubing 2018). See Figure 5-9 for general locations of downstream recreation opportunities.

West Canada Creek is one of the most renowned trout streams in central New York, providing anglers with good fishing for both brown trout and brook trout (NYSDEC 2018e). The reach from Dover Road Bridge (just below the Nine Mile Creek Feeder Dam) approximately 2.5-miles downstream to the confluence of Cincinnati Creek, is a catch and release zone, known as the Trophy Section. This Trophy Section has special regulations established by NYSDEC where no kill restrictions, use of artificial lures, and extended fishing seasons are used to help produce trophy fish (NYSDEC 2018e).

During April through October of 2007, NYSDEC conducted a recreational fishing survey to collect angler effort, catch and harvest data on a 28-mile segment of West Canada Creek downstream of the Project between Trenton Falls and Herkimer. The study area was divided into 7 reaches, including Reach 1 – Trenton Falls to Cincinnati Creek, the 2.5-mile Trophy Section. The creel survey included a roving-roving survey methodology of both angler counts and surveys on 56 weekend/holiday days and 131 weekdays during both the mornings and evening periods. NYSDEC interviewed over 1,105 anglers at 30 different locations during the study period. Approximately 95 percent of the anglers surveyed were residents of New York with 67

percent residing in Oneida and Herkimer counties, and 93 percent of the anglers were male (Erway 2012).

NYSDEC estimated a total angler effort of 14,942 hours across all the reaches, with 3,135 of those angler hours within Reach 1. Angler hours averaged 20 hours/acre for all reaches, and 50 angler hours/acre for Reach 1. NYSDEC estimated the total catch for the study area at 7,639 trout, representing 17.9 percent of the fish stocked, and an estimated catch of 2,317 trout within Reach 1. The overall catch rate for the study reaches was 0.47 fish/hour, and for Reach 1 a catch rate of 0.85 fish/hour (Erway 2012).

Total harvest for the study area was 1,383 trout. Reach 2 (Cincinnati Creek to Comstock Bridge) had the highest estimate harvest per reach at 451 trout. Reach 1 is a catch and release area, but had limited estimated illegal harvest of 10 trout. The most popular angling technique was live bait (41 percent), followed by fly fishing (28 percent), artificial lures (17 percent), and bait fishing/artificial lures (13 percent). NYSDEC indicated that comparisons from previous years (1967 and 1976) were difficult due to different survey methodologies; however, overall catch rates were similar. NYSDEC concluded that catch rates were on target for the goal of 0.5 fish/hour, with the upper reaches, including Reach 1, above that goal (Erway 2012).

American Whitewater identifies a Level II (beginner/intermediate) 28-mile long whitewater boating run beginning at the Dover Road Bridge (just below the Nine Mile Creek Feeder Dam) and extending to Herkimer. American Whitewater identifies the flow range for boating this reach as 600 cfs to 1000 cfs, and that water levels are generally high enough for paddling this reach year-round. American Whitewater identifies two runs along this stretch with Section 1 extending from Dover Road to Route 29 in Middleville, and Section 2 from Route 29 in Middleville to Route 7 at Kast Bridge north of Herkimer. Section 1 is described as Class I-II and a pleasant moving water cruise, with one mandatory portage at Newport Dam. Section 2 is described as Class II-II+ and a classic teaching section with light rapids and flat sections (American Whitewater 2018).

In addition to whitewater boating, the downstream reach supports recreational tubing opportunities starting below the catch and release section (about 2.5 miles downstream of Dover Road Bridge) and extending about 5 miles downstream to the West Canada Creek Campsites

campgrounds. According to the West Canada Creek Tubing website, flows of less than 450 cfs are considered poor floating conditions and no canoe/kayak rentals are available; flows of 450 cfs to 900 cfs are considered good floating conditions and all rentals (canoe/kayak and tubing) are available, flows of 900 cfs to 1350 cfs are considered fast floating conditions and all rentals are available, and at flows of over 1400 cfs no rentals are available (West Canada Creek Tubing 2018).

5.9.4 CURRENT RECREATION USE LEVELS

The current FERC license requires Erie to file a FERC Form 80 every 6 years to document recreation use levels. The latest Form 80 was filed in 2015 for 2014 monitoring. For Prospect Development, Erie reported one boat launch area at approximately 25 percent capacity with estimated annual recreation use of approximately 3,400 recreation days (Erie 2015a). Trenton Development reported facilities with 2 miles of trails at approximately 75 percent capacity (during the special event weekends) with an estimated annual recreation use of approximately 2,500 recreation days (Erie 2015b). Form 80s filed in 1997, 2003, and 2009, indicated similar recreation use.

5.9.5 PUBLIC SAFETY MEASURES

Per Section 10(c) of the Federal Power Act (FPA), FERC requires licensees to operate and properly maintain projects to ensure the protection of life, health, and property, and to employ measures to enhance the protection of the public that utilize project lands and waters. 18 CFR 12.42 requires the licensee to install, operate, and maintain any signs, lights, sirens, barriers, or other safety devices necessary to warn public of fluctuations in flow from project operations, and to protect/warn the public in use of project lands and waters. Accordingly, FERC requires licensees to develop, maintain and submit Public Safety Plans to achieve these public safety measures.

FERC acknowledges that these plans are developed with a project-by-project approach to public safety in that each project has unique conditions that can required different measures to educate, inform and protect public from potential dangers associated with the project lands and operations. Accordingly, Erie has developed, according to FERC's Guidelines for Public Safety at Hydropower Projects, Public Safety Plans for the Prospect and Trenton Developments, which

are revised on a regular basis as conditions warrant. These plans (and revisions) are reviewed and accepted by the FERC New York Regional Office. As described in the Project's Public Safety Plan, Erie implements public safety and security measures, such as signage, fencing, alert / warning devices, and boat barriers to protect public safety and for Project security purposes.

For the safety of fishermen, Erie maintains a Fishermen Alert System (FAS) below the Trenton Powerhouse. The FAS includes 2 sirens (located at the Trenton Powerhouse and adjacent to Nine Mile Creek Feeder Dam) and one beacon/strobe (located on Dover Bridge). The FAS is activated prior to loading any unit or increasing the flow out of the Trenton Powerhouse. Additionally, the FAS is activated prior to releasing any flows at the Trenton Dam. The siren is only activated during daylight hours, while the beacon strobe is activated 24/7. There is associated downstream signage to inform the public that the when the siren sounds there is a danger of fast rising water.

In addition, Erie provides information regarding flow releases at the Trenton Powerhouse via Waterline, a publicly accessible website and toll-free phone line. Waterline is updated daily and based on river gauge information and calculated estimated flows. The Waterline information provides general river flow conditions and forecasts. The information is based on approximate forecasts and actual flows can vary and change quickly at any time. The Waterline information should be used as an additional source of information and reference of potential flow ranges. Users are encouraged to always be alert and wear an approved flotation device and to never go in or near the water until the user knows and accepts the risks in the area (Waterline 2018).

As described previously, Erie maintains fencing and signage at key access points to help restrict public access to the Trenton Falls Gorge (with the exception of the managed public viewing weekends) and to Project facilities. The Trenton Falls Gorge consists of steeply walled gorge containing a series of waterfalls, with elevation drops of up to 100 feet at the falls, and can be dangerous or conducive to accidents that could cause injury or loss of life. Erie maintains fencing and signage along the western shoreline from the Trenton Dam to the Trenton Powerhouse and Project dam and powerhouse facilities are gated and locked. Erie reserves these portions of the Project land and facilities from public access for public safety and for Project security purposes.

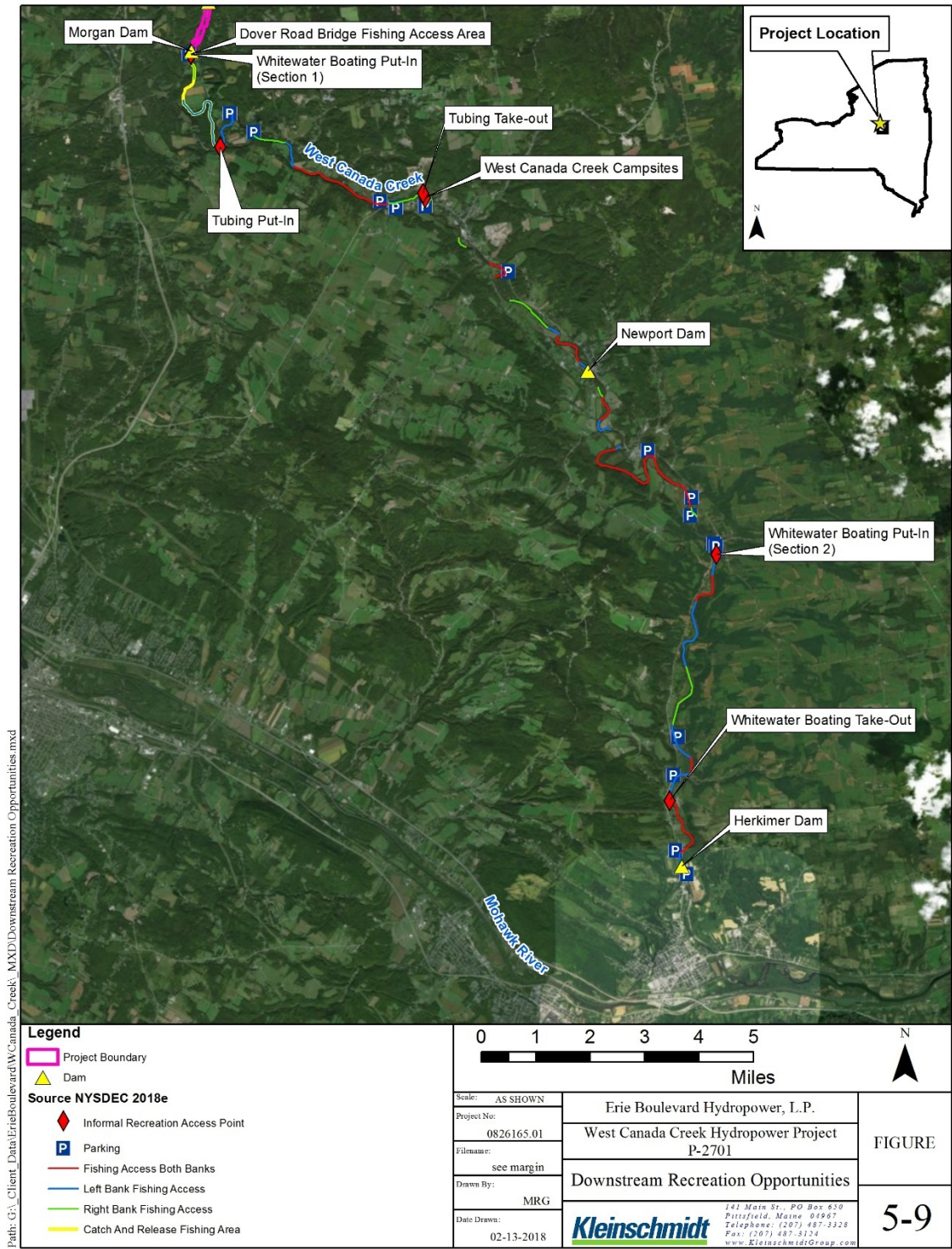


FIGURE 5-9 DOWNSTREAM RECREATION OPPORTUNITIES

5.9.6 SPECIALLY DESIGNATED RECREATION AREAS PROXIMAL TO THE PROJECT

5.9.6.1 NATIONAL WILD AND SCENIC RIVERS

National-level river protection programs include the Nationwide Rivers Inventory (NRI) and the National Wild and Scenic River System was created by Congress in 1968. The NRI is a program that lists river segments that are believed to possess one or more “outstandingly remarkable” natural or cultural values. The National Wild and Scenic River System was created to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations (NPS 2009; Wild and Scenic Rivers 2017). No portion of West Canada Creek is listed within the NRI or designated under the National Wild and Scenic River System.

5.9.6.2 NEW YORK STATE DESIGNATION

Sections of West Canada Creek are designated under New York State’s Wild, Scenic, and Recreational Rivers Act (WSRRA) (NYSDEC 2017g). The WSRRA is administrated by the NYSDEC and defines three types of rivers or river segments that are subject to certain degrees of control: Wild River, Scenic River, and Recreational River. Wild Rivers are the most stringently regulated rivers or river segments under the WSRRA. Wild Rivers are free flowing wilderness rivers where their banks are essentially untouched, remote from the sight and sound of civilization, and inaccessible except by water, horse, or foot. Scenic Rivers are more rural than Wild Rivers, but are also free flowing and far from villages or communities. Scenic Rivers have limited road access and modest farming or forestry activities along their banks. Recreational Rivers are valued chiefly in terms of opportunities for water recreation. Recreational River banks are readily accessible and developed within occasional towns or resorts (Strauss 1973).

Three segments of West Canada Creek are included under WSRRA protections, and are all upstream of the Project area (NYSDEC 2017g):

1. Approximately 8 miles from Mud Lake head waters to the Old Mitchell Dam site is classified as Wild River;
2. Approximately 17 miles from a point approximately 2 miles upstream of the Old Mitchell Dam site to the Route 8 Bridge crossing near Nobleboro is classified as Scenic River;

3. Approximately 11 miles from the Route 8 Bridge crossing near Nobleboro to the Harvey Road Bridge crossing is classified as Recreational River.

The remaining segments of West Canada Creek, including the segments within the West Canada Creek Project boundary and the upstream Jarvis Project boundary are not designated under the WSRRA.

5.9.6.3 DESIGNATED NATIONAL TRAILS OR WILDERNESS AREAS

No National Trails System trails or Wilderness Areas occur within the West Canada Creek Project boundary or are under study for inclusion within the Project boundary (National Park Service 2017a; Wilderness.net 2017). The North Country National Scenic Trail runs to the west of Utica, New York but does not traverse the Project boundary.

5.9.7 REGIONAL RECREATION NEEDS IDENTIFIED IN MANAGEMENT PLANS

New York Statewide Comprehensive Outdoor Recreation Plan 2014-2019

The New York State Office of Parks, Recreation, and Historic Preservation (NYOPRHP) published the New York Statewide Comprehensive Outdoor Recreation Plan (SCORP) in 2014 (NYOPRHP 2014). The SCORP is prepared every 5 years to provide statewide policy direction and to fulfill the agency's recreation and preservation mandate. This SCORP serves as a status report and as an overall guidance document for recreation, resource preservation, planning, and development from 2014 through 2019. As described within the SCORP, the direction for recreation in the state is guided by three overarching initiatives with associated goals and recommendations:

1. Enhance and Revitalize the State Outdoor Recreation System;
2. Improve Connections between Recreation, Economics, Sustainability, and Healthy Lifestyles; and
3. Strengthen the Link Between People, Nature, Recreation, and Resource Stewardship.

Town of Trenton Master Plan for Recreational Trails

The April 2007 Town of Trenton Master Plan for Recreational Trails is a product of the October 2007 Town of Trenton Master Plan that references the importance of creating and maintaining a community trail system (Town of Trenton 2007). The Master Plan for Recreational Trails

describes existing trails and near-term and far-term proposals for extensions and enhancements to those existing trails. The plan envisions a multi-use linked trail system that incorporates existing trail segments and greenways into a complete network that would ultimately connect the town's three villages and three hamlets. Goals listed within the Plan include: create a safe, beneficial pedestrian and multi-use trail network between the Villages and Hamlets of the Town of Trenton (Hinckley; Prospect; Trenton Falls; Barneveld; Holland Patent; South Trenton); create trail-to-trail links; create trail access to recreational facilities, cultural sites, and commercial locations; and create waterway trails.

5.9.8 LAND USE AND MANAGEMENT WITHIN AND ADJACENT TO THE PROJECT BOUNDARY

The West Canada Creek drainage basin, beginning in the Adirondack Mountains and ending at the Mohawk River just east of the village of Herkimer, is approximately 77 percent forested, with sparse rural residential uses in the upper basin, agricultural uses in the lower basin, and residential and commercial land uses in towns and villages along West Canada Creek (Milone & MacBroom 2014). Vegetation within the watershed is dominated by northern hardwood forest (62 percent) followed by mixed evergreen-deciduous forest and woodland (7.6 percent) and pasture/hay agricultural lands (7.2 percent) (MRLC 2011).

The Project boundary resides in the towns of Trenton and Russia. Both towns are considered rural gateway communities to Adirondack Park as they are situated in a transition area between the populated Mohawk Valley region and the sparsely settled woodlands of the lower Adirondacks (Town of Russia 2005). Both towns are considered rural communities with abundant open space, waterways, forested hills, and working farms that characterize the environment (Town of Trenton 2007). Land use as classified by the National Land Cover Dataset is provided in Section 5.2.

The majority of the Town of Trenton's total 2,327 tax parcels (65 percent) were identified as residential (Town of Trenton 2011). The next largest categories were vacant land (18 percent), commercial land (4 percent), and agriculture (3 percent). Additionally, the majority of the Town of Russia's total 1,769 tax parcels (56 percent) are also identified as residential (Town of Russia 2005). Given that parts of Adirondack Park and the Hinckley Reservoir are included within the Town of Russia limits, vacant land (including state lands) is the next largest parcel category type

at 43 percent. The two next largest categories include parcels classified as other (including public utilities and public and semipublic uses) (2 percent) and agriculture (2 percent).

Land use in the Town of Trenton is managed by the Planning Board and Zoning Board whose decisions are guided by the 2007 Trenton Master Plan (Town of Trenton 2011). Land use in the Town of Russia is similarly managed by the Town Planning Board and Zoning Board whose decisions are guided by the 2005 Town of Russia Comprehensive Plan (Town of Russia 2005). Development within both towns is guided by established zoning districts. Zoning identifies distinct districts within which land use parameters are established for the type or use, density, and layout (setbacks) of development (Town of Trenton 2011). Since the Town of Russia is partially located within the bounds of Adirondack Park, certain land development proposals termed “regional projects” are additionally subject to a case-by-case review by the Adirondack Park Agency (Town of Russia 2005). This Agency review is similar to a site plan review conducted pursuant to local zoning.

Lands adjacent to the West Canada Creek Project are generally wooded with exception of the MVWA WTP on the west side of the bypass reach between Prospect Dam and the powerhouse, and low intensity farm fields. A majority of this land is privately owned and consists of private year-round or vacation residences and rural vacant land (Herkimer County 2017). Town of Trenton lands within 300 feet of West Canada Creek shoreline are managed as a Special Land Conservation District and lands beyond the 300-foot mark are managed as either residential rural, medium density residential, or residential agriculture (Town of Trenton 2011). Town of Russia lands within 150 feet of West Canada Creek shoreline are managed as a Shoreline District and the rest of the lands beyond the 150-foot mark are managed as a low density residential district (Town of Russia 2005).

Lands within the West Canada Creek Project boundary are primarily wooded and used for the operation and maintenance of the Prospect and Trenton hydroelectric facilities. As described in Section 5.9.2, some formal and informal recreation opportunities also occur within the Project boundary. Lands within the Project boundary are subject to the Town of Trenton and the Town of Russia zoning rules and regulations.

5.9.9 EXISTING PROJECT SHORELINE MANAGEMENT POLICIES

Erie has developed and implemented a General Land Use Policy for all Erie's lands associated with its New York hydroelectric projects, including the West Canada Creek Project. The Land Use Policy provides information and guidance to adjoining neighbors and other stakeholders regarding land and shoreline use around Erie developments. The Land Use Policy's general framework for Erie's management includes general descriptions of allowable and restricted activities, Licensing and Shoreline Permitting policy and process. Specifically, for West Canada Creek Project, the Prospect Impoundment is primarily undeveloped with vegetated and wooded shorelines, and with one area of limited residential development along the upper eastern shoreline outside of the existing Project boundary. The remainder of the Project lands are primarily located along the Trenton Falls Gorge, which due to the steep gorge and wooded adjacent shoreline, is primarily undeveloped with limited and restricted access. Erie restricts public access to this area through signage and fencing for public safety and Project security purposes (see also Section 5.9.5).

5.9.10 EXISTING SHORELINE BUFFER ZONES WITHIN PROJECT BOUNDARY

Erie owns sufficient property rights adjacent to the Prospect and Trenton impoundments, including property outside the Project boundary for safe operation of the Project. The Town of Trenton and Town of Russia additionally have shoreline buffer zoning districts that help to ensure shoreline protections.

In the Town of Trenton, lands within 300 feet of the West Canada Creek shoreline at normal water level are managed as a special Land Conservation District (Town of Trenton 2009). All developments in this area must be performed in accordance with the Town of Trenton Site Plan Review Law. Developments must be setback a minimum of 50 feet from the shoreline and the setback of any permanent building from the shoreline must be considered in relation to the slope of the land and the arrangement of any septic system and tile field, and such setback shall be as determined by the Planning Board (Town of Trenton 2009).

Within the Town of Russia, lands within 150 feet from the mean high-water mark of West Canada Creek are managed as a shoreline district. Land use in the Town of Russia's shoreline district is subject to additional restrictions, including Site Plan Approval requirements for any

new buildings except single- and two-family residences (Town of Russia 2012). A minimum shoreline setback for West Canada Creek within the shoreline district is 50 feet for hamlet districts and 150 feet for mixed use low density, scenic corridor 2, medium density residential, low density residential, and rural density residential districts (Town of Russia 2012). Minimum frontage requirements are also mandated within the shoreline district.

5.10 AESTHETIC RESOURCES

5.10.1 VISUAL CHARACTER OF PROJECT LANDS AND WATERS

The West Canada Creek Project is surrounded primarily by forested areas that consist of mixed forest, deciduous forest, and evergreen forest. The Prospect impoundment is just over 1-mile-long and is relatively narrow. Steep stream banks surround the Prospect bypass reach, powerhouse, and tailrace. The Trenton impoundment is small at approximately 0.5-mile in length and resides within the narrow, steep rock-walled Trenton Falls Gorge. The entirety of the Trenton Development resides within the steep embankments of the Trenton Falls Gorge. Trenton Falls Gorge features several waterfalls that drop approximately 300 vertical feet over the course of approximately 2.5 miles. A combination of the tree growth surrounding Project lands and the deep Trenton Falls Gorge keeps a majority of the Project relatively isolated and screened from public view.

Additionally, because a majority of the Project's location is within the Trenton Falls Gorge, public access and viewing of Project components is limited by Erie for public safety reasons. Approximately 50 percent of the Prospect impoundment is accessible from State Route 365 where views of the impoundment can be seen from the road, or formal/informal access points. As the remainder of the Project resides within the Trenton Falls Gorge, public access is restricted with the exception of the special event occasions of the bi-annual opening of the Trenton Falls Scenic Trail area. Trenton Falls Road runs along the west side of West Canada Creek. Route 113 additionally crosses the Prospect bypass reach and power canal areas and offers drivers with a view of the Trenton Falls Gorge, but does not offer access.

All facilities at the Prospect Development were constructed between 1956 and 1959 and facilities at the Trenton Development were constructed between 1899 and 1901; both developments highlight designs from their respective eras of construction. The Prospect Dam consists of a main

spillway with a north dike and a south dike. The spillway is made of concrete and the dikes are earthen embankments. The 1959 Prospect powerhouse is made of reinforced concrete. The Trenton Dam is a concrete masonry dam consisting of a main spillway with non-overflow sections on either side, and an auxiliary spillway along the east side of the West Canada Creek. The original powerhouse (Powerhouse No. 1) built in 1901 is constructed of native stone building material and a second 1918 powerhouse (Powerhouse No. 2) abuts Powerhouse No. 1 on the upstream side and is made of steel-framed concrete. The steel Trenton Development surge tank is painted green to have a similar color as the surrounding environment.

The Town of Russia maintains a Scenic Corridor Overlay along highway NY 365, Hinckley Road, and Military Road between Dover Road and Hinckley Road to preserve recreational value and aesthetics of waterways, bicycle routes, and scenic views (Town of Russia 2005). As noted in Section 5.9.2.2, Erie, in partnership with the Town of Trenton, provides controlled public access to the Trenton Falls Scenic Trails for 1 to 2 weekends in the spring and fall. This provides residents and tourists opportunities to view and experience the scenic vistas of Trenton Falls Gorge and the waterfall during these periods. Prospect Village additionally provides an overlook platform, outside of the Project boundary, in the center of town for viewing West Canada Creek and the Trenton Falls Gorge upstream of the waterfall.

Photo 5-8 through Photo 5-20 provide representative views of project features at both Prospect and Trenton developments, as well as the Town of Prospect overlook. Additional photos of the Trenton Gorge Trail and recreation sites associated with the Project are provided in Section 5.9.2, Project Recreation Facilities and Opportunities.



PHOTO 5-8 PROSPECT RESERVOIR



PHOTO 5-9 PROSPECT DAM (UPSTREAM VIEW OF DAM FROM LEFT ABUTMENT)



PHOTO 5-10 PROSPECT DAM (DOWNSTREAM VIEW FROM RIGHT EARTHEN EMBANKMENT)



PHOTO 5-11 PROSPECT CANAL (VIEW UPSTREAM FROM MILITARY ROAD BRIDGE CROSSING)



PHOTO 5-12 PROSPECT POWERHOUSE



PHOTO 5-13 WEST CANADA CREEK AT PROSPECT POWERHOUSE



PHOTO 5-14 TOWN OF PROSPECT SCENIC OVERLOOK PLATFORM



PHOTO 5-15 VIEW FROM TOWN OF PROSPECT SCENIC OVERLOOK



PHOTO 5-16 TRENTON IMPOUNDMENT



PHOTO 5-17 TRENTON DAM



PHOTO 5-18 TRENTON BYPASS REACH/TRENTON FALLS (VIEW FROM ERIE'S TRENTON FALLS SCENIC TRAIL VIEWING PLATFORM)



PHOTO 5-19 TRENTON POWERHOUSES



PHOTO 5-20 TRENTON POWERHOUSES AND SURGE TANK (VIEW FROM DOWNSTREAM)

5.10.2 OTHER SCENIC ATTRACTIONS

State Route 8 traverses through the Town of Russia and is a designated New York State Scenic Byway that is a part of the Southern Adirondack Trail (Town of Russia 2005). The Southern Adirondack Trail is located in Hamilton and Herkimer counties and traverses 112 miles in central New York (Adirondack Regional Tourism Council 2017b). State Route 365 traverses through the Town of Trenton and is a designated New York State Scenic Byway that is a part of the Central Adirondack Trail (Town of Trenton 2011). The Central Adirondack Trail offers 153 miles of spectacular scenery as it traces an arc through the center of the Adirondack Park in northern New York (Adirondack North Country Association 2011). The nearby Village of Barneveld in the Town of Trenton and the Town of Remsen are additionally named Adirondack Park Scenic Byway Communities located along the Central Adirondack Trail (Adirondack North County Association 2011). Scenic byway attractions listed in these communities include the Trenton Falls Gorge, Hinckley Reservoir and West Canada Creek, and the Hinckley Reservoir NYSDEC Day Use Area.

The Town of Russia 2005 Comprehensive Plan identifies the following additional roads as particularly scenic:

- State Route 28 Corridor. The most heavily traveled highway in Town is also one of the most scenic. The Town has initiated discussions with the State to seek Scenic Byway designation for the Route 28 corridor, which is presently a lightly developed rural area with open space views southward toward the West Canada Creek.
- Local Roads: Partridge Hill Road, Hinckley Road north of Black Creek Road, Elm Flats Road, Black Creek Road east of Grant Road, Buck Hill Road, Norris Road, Simpson Road, Military Road between Dover Road and Hinckley Road, Military Road east of Buck Hill Road, and portions of Grant Road (Town of Russia 2005).

The Town of Trenton 2011 Master Plan additionally identifies the Adirondack Scenic Railroad as a resource within the town. The railroad is owned by the New York State and Genesee Valley Transportation, Inc. and operation is run by the non-profit, Adirondack Railway Preservation Society (Town of Trenton 2011). The Preservation Society is restoring the full 141-mile railroad corridor from Utica to Lake Placid.

5.11 CULTURAL RESOURCES

5.11.1 PREHISTORIC OVERVIEW

The Trenton area is known to be rich with fossils of the extinct arthropods, trilobites. They are regularly discovered as well-preserved samples in the layers of limestone along the gorge and in the surrounding area (Brett and Caudill, 2004a).

Generally, areas within New York was occupied in the Paleoindian stage following the end of the Wisconsin glaciation, around 8,000 B. C., however, no indications of use of this land by the expected nomadic, big-game hunters (such as discovery of fluted projectile points), have been identified in Oneida or Herkimer Counties (Ritchie and Funk, 1973, as cited in Pratt and Pratt Archeological Consultants 1978). However, the area is close to the understood boundaries of the Oneida and Mohawk Nations of the Iroquois (see Section 5.13).

5.11.2 HISTORIC BACKGROUND

Beginning in the late 1700s, the area along West Canada Creek in the vicinity of the Project began to be settled and populated. By the early 1800s, improved transportation had led to the

development of limestone quarries on either side of the gorge, as well as two sawmills and a gristmill. Improved transportation also led to the rise of tourism, with Trenton Falls drawing visitors. John Sherman constructed the Rural Resort, a hotel located just west of the present-day Trenton powerhouse. The hotel was later run by Sherman's daughter, Maria, and her husband, Michael Moore. At its peak in 1851 the Moore Hotel had 100 rooms, and was the largest hotel in New York north of Utica (HAER 1993).

In 1863, William Seward, the Secretary of State under President Lincoln, organized a tour for foreign diplomats to show them the extent of the north's resources, and to convince them that the Union Army would win the Civil War. Seward invited the diplomats to stay at Moore Hotel and to view Trenton Falls. This stop is believed to be instrumental in his argument. The only known photograph of the group was taken at the base of Trenton Falls (Brett and Caudill 2004b).

By the late 1880s, however, additional new transportation improvements enabled the Adirondacks and the St. Lawrence River's Thousand Islands to be more accessible, and tourism interest at Trenton tapered off (HAER 1993) The Moore Hotel ultimately closed in 1899 when the property was sold to Utica Electric Light and Power Company for the hydroelectric development.

Industry in nearby Utica was also booming in the late 1800s, with a concentration of textile plants, including steam-powered cotton and woolen mills. Several power companies began considering the Trenton gorge for power development, and ultimately merged in order to raise enough capital to construct the Trenton hydroelectric project. Planning began in the late 1890s, following the opening of the first powerhouse at Niagara. The Niagara powerhouse design strongly influenced construction of the first powerhouse at Trenton from 1899-1901, but 1917, technology had improved to the point where it was reasonable to design, construct a second powerhouse at Trenton (HAER 1993).

5.11.3 HISTORICAL AND ARCHAEOLOGICAL SITES IN THE PROJECT VICINITY

The New York State Historic Preservation Office (SHPO) and the Division for Historic Preservation within NYOPRHP maintains the New York State Cultural Resource Information System (CRIS). CRIS contains a comprehensive inventory of archeological sites, State and

National Register properties, properties determined eligible for the National Register, and previous cultural resource surveys (NYOPRHP, 2018). In addition, the Trenton Powerhouse HAER documentation was reviewed for additional information regarding cultural and historic resources at the Project (HAER 1993).

An examination of the CRIS indicated there was one property located adjacent to the Project (New York State Barge Canal Historic District) that is listed on the National Register of Historic Places. In addition, the Trenton Powerhouse is eligible for listing on the National Register of Historic Places, as summarized in the following section.

5.11.3.1 NEW YORK STATE BARGE CANAL HISTORIC DISTRICT

The New York State Barge Canal is a nationally significant work of early twentieth century engineering and construction that affected transportation and maritime commerce across the eastern third of the continent for nearly half a century. It was an embodiment of Progressive Era beliefs that public works and public control of transportation infrastructure could counterbalance the growing monopoly power of railroads and other corporations. The New York State Barge Canal System's four main branches, the Erie, Champlain, Oswego, and Cayuga-Seneca canals, are much enlarged versions of waterways that were initially constructed during the 1820s. The Erie Canal, first opened in 1825, was America's most successful and influential manmade waterway, facilitating and shaping the course of settlement in the Northeast, Midwest, and Great Plains; connecting the Atlantic seaboard with territories west of the Appalachian Mountains, and establishing New York City as the nation's premiere seaport and commercial center. Built to take advantage of the only natural lowlands between Georgia and Labrador, New York's canals were enormously successful and had to be enlarged repeatedly during the nineteenth century to accommodate larger boats and increased traffic.

The New York State Barge Canal, constructed 1905-18, is the latest and most ambitious enlargement. When completed, it featured: 57 concrete locks with electrically operated gates and valves (not the first examples, but certainly the most extensive application of a still new technology); dedicated power plants at each lock; the highest single lift lock in the world (Lock E17, Little Falls); a group of five closely spaced locks that collectively formed the highest lift in the shortest distance in the world (Locks E2 through E6 of the Waterford Flight); eight movable

dams on the Mohawk River that were based on creative adaptation and combination of new European designs and were unlike any others in North America; fifteen lift bridges of unusual design; dozens of highway bridges designed with standardized features that allowed rapid and comparatively inexpensive construction; and many innovative water control structures (NPS 2017b).

The Hinckley Dam, Hinckley Reservoir, and Nine Mile Creek Feeder Dam, all located outside of the West Canada Creek Project boundary, are all considered discontinuous contributing properties to the New York State Barge Canal Historic District (NRHP No. 14000860) (the Jarvis Project is considered a noncontributing property) (NPS 2017b). The West Canada Creek Project and lands within the Project boundary are not contributing properties of the New York State Barge Canal Historic District; and therefore, are located outside of this designated historic district.

5.11.3.2 TRENTON STATION

The original power station (Powerhouse 1) at Trenton Falls was constructed in 1901. At the time of its construction, the facility was the highest head plant in the United States to use turbines rather than impulse or Pelton water wheels. It was also the first to use high head turbines designed and constructed in America. In 1918, technology had improved to the point that a second powerhouse (Powerhouse 2) was constructed as an integral extension of the original. The rapid redevelopment of the Trenton powerhouse is indicative of the rapidly changing industry at that time (HAER 1993).

The Trenton Powerhouse 1 is eligible for listing on the National Register of Historic Places. The previous owner (Niagara Mohawk Power Company) proposed station modifications in the 1970s. As a result, the Project was reviewed by the Advisory Council on Historic Preservation, the New York State Historic Preservation Officer, and the FERC. As required by Article 35 of the FERC License, before modifications to the Project, Niagara Mohawk Power Company conducted a HAER documentation of the Trenton Powerhouse (HAER 1993).

5.11.4 PRIOR CULTURAL RESOURCE INVESTIGATIONS

A cultural resources survey was performed in 1978 as part of the previous redevelopment at Trenton. It included a literature review and on-site inspection (Pratt and Pratt Archeological Consultants 1978). The report noted that the Trenton Development qualified as eligible for listing on the National Register. A HAER documentation of the Trenton Powerhouse was conducted in August 1993 (HAER 1993).

5.12 SOCIOECONOMIC RESOURCES

The West Canada Creek Project is located in the Towns of Trenton and Russia and within the counties of Oneida and Herkimer, New York. Oneida and Herkimer counties are located in the central portion of New York State, east of Syracuse and west of Albany, and are considered gateways to the Adirondacks. Herkimer County is 1,412 square miles and consists of 30 municipalities (10 villages, 19 towns, 1 city) and Oneida County is of similar size at 1,213 square miles and consists of 48 municipalities (19 villages, 26 towns, 3 cities) (Oneida County 2017; New York State 2017d, 2017e).

The Towns of Trenton and Russia originally began as popular locations for establishing farmsteads, primarily dairy producing farms (Town of Trenton 2011; Town of Russia 2005). During the latter half of the 19th Century, development of the Town of Trenton was influenced by expansion of the tourist industry at Trenton Falls and construction of a new railroad line through the area (Town of Trenton 2011). Construction of the Hinckley Reservoir and increasing attraction to Adirondack Park in the 20th Century also expanded the tourism industry in the Town of Russia (Town of Russia 2005). Today, the towns are no longer agricultural centers, but serve a dual role within the region as they: 1) act as “bedroom communities” for those employed in cities such as Utica, Rome, City of Little Falls, and the villages of Herkimer and Mohawk located within short commuting distances; and 2) provide scenic rural environments and recreational resources that attract both residents and tourists alike (Town of Russia 2005).

The population of Herkimer County, based on the 2016 American Community Survey 5-year Population Estimate, was 62,613 (45.7 persons per square mile), decreasing by 2.9 percent from the 2010 census. The population in Oneida County was 231,190 (193.7 persons per square mile) decreasing by 1.6 percent from the 2010 census (Census Bureau 2017b). Populations in the

Towns of Trenton and Russia have similarly decreased since the 2010 census as well as within the surrounding Town of Remsen. Table 5-19 depicts population numbers for towns located within the project area.

TABLE 5-19 POPULATION IN TOWNS SURROUNDING THE PROJECT AREA

LOCATION		POPULATION ESTIMATES		PERCENT CHANGE
		2010	2016	
New York State		19,378,110	19,745,289	1.9%
Counties	Herkimer	64,468	62,613	-2.9%
	Oneida	234,889	231,190	-1.6%
Towns	Trenton	4,498	4,451	-1.1%
	Russia	2,587	2,570	-0.7%
	Remsen	508	497	-2.2%
	Ohio	1,002	1,003	0.1%

Source: Census Bureau 2017a, 2017b

The 2012-2016 estimated median household income for Herkimer County and Oneida County is \$48,893 (in 2016 dollars) and \$49,838 (in 2016 dollars), respectively (Census Bureau 2017b). The poverty rate in Herkimer County is 14.6 percent, Oneida County is 17.1 percent, and New York State is in between the two at 15.7 percent (New York State Community Action Association 2017). Both counties have high percentages of high school graduates for the years 2012-2016 at 90.2 percent (Herkimer County) and 88.1 percent (Oneida County) (Census Bureau 2017b). The most common jobs held by residents of Herkimer and Oneida counties, by number of employees, are administrative, sales, and management. The most common employment sectors for those who live in Herkimer County are healthcare and social assistance, retail trade, and manufacturing. The most common employment sectors for those who live in Oneida County are healthcare and social assistance, educational services, and retail trade (Data USA 2017).

The Mohawk Valley 2015 Significant Industries Report (New York State Department of Labor 2015), identifies the top five industries (both public and private sector) within the Mohawk Valley area which include: 1) educational services; 2) hospitals; 3) nursing and residential care facilities; 4) social assistance; and 5) ambulatory health care services. Table 5-20 summarizes the

estimated number of jobs (2014) and average annual salary (2014) within the various industries in the Mohawk Valley Region (New York State Department of Labor 2015).

TABLE 5-20 SIGNIFICANT INDUSTRIES IN MOHAWK VALLEY REGION (2014)

INDUSTRY NAME	2014 JOB COUNT*	AVERAGE ANNUAL WAGE 2014
Educational Services	22,600	\$41,600
Hospitals	11,400	\$57,900
Nursing and Residential Care Facilities	11,000	\$29,900
Social Assistance	8,400	\$22,700
Ambulatory Health Care Services	8,100	\$49,600
Professional, Scientific, and Technical Services	4,700	\$51,000
Warehousing and Storage	3,500	\$41,100
Specialty Trade Contractors	2,600	\$43,200
Food Manufacturing	2,400	\$43,600

*Represents both public and private sector jobs.
Source: New York State Department of Labor 2015

The elevated number of educational service jobs is a result of the high number of higher education institutions located within the region. Twelve public and private colleges and universities reside in the Mohawk Valley, and six reside within Herkimer and Oneida counties alone (Call Mohawk Valley Home 2017; Oneida County 2017). Table 5-21 lists the higher education institutions located within Herkimer and Oneida counties.

TABLE 5-21 HERKIMER AND ONEIDA COUNTIES HIGHER EDUCATION INSTITUTIONS

NAME	LOCATION	PUBLIC/ PRIVATE	TYPE	APPROXIMATE ENROLLMENT
Hamilton College	Clinton	Private	4-Yr	1,700
Herkimer County Community College	Herkimer	Public	2-Yr	2,500
Mohawk Valley Community College	Utica/Rome	Public	2-Yr	5,000
State University of New York-Institute of Technology	Marcy	Public	4-Yr	2,500
Utica College	Utica	Private	4-Yr	2,500
Utica School of Commerce	Utica	Private	2-Yr	350

Source: Oneida County 2017

The West Canada Creek Project also has an impact on the surrounding economy. Erie directly employs 5 full-time employees at the Project. Numerous contractors routinely provide services at the Project.

5.13 TRIBAL RESOURCES

Erie is not aware that the Project affects any Native American tribe. There are no Native American lands, known Native American traditional cultural properties or religious properties, or National Register-eligible or -listed sites associated with Native American Nations within the Project boundary. The following is a listing of Native American tribes that may have some level of interest in the area surrounding the Project and have been contacted by Licensee in preparation of the PAD:

Oneida Indian Nation
Ray Halbritter, Nation Representative
Jesse Bergevin, Historian
2037 Dreamcatcher Plaza
Oneida, NY 13421

Oneida Tribe of Indians of Wisconsin
N7210 Seminary Road
Oneida, WI 54155

St. Regis Mohawk Tribe
Michael Conners, Jr. Tribal Chief
Beverly Cook, Tribal Chief
Eric Thompson; Tribal Chief
Ken Jock, Environmental Director
Arnold Printup
412 State Route 37
Akwesasne, New York 13655

While Erie does not believe that other tribes have an interest in the project area, other tribes with an interest in New York State include the following, Cayuga Nation, Oneida Indian Nation, Onondaga Indian Nation, Seneca Nation of Indians, St. Regis Mohawk Tribe, and Tonawanda Band of Seneca Indians (BIA 2018).

6.0 PRELIMINARY ISSUES, PROJECT EFFECTS, AND POTENTIAL STUDIES LIST

6.1 ISSUES PERTAINING TO THE IDENTIFIED RESOURCES

The following is a list of preliminary issues Erie has identified based on available information and research, as well as information received from interested stakeholders as part of the PAD questionnaire relating to the ongoing operation of the West Canada Creek Project. As stated previously, Erie distributed the questionnaire to potentially interested parties (over 60 stakeholders) to:

- Notify interested governmental agencies, non-governmental organizations, Indian tribes, and individuals of the upcoming relicensing proceeding;
- Identify any existing, relevant, and reasonably available information that describes the existing West Canada Creek Project's existing or historical environment; and
- Help identify resource interests for consideration during the relicensing process.

Responses received from this questionnaire are summarized in Appendix C, and information is summarized in the following sections according to key resource area. During the public scoping process that begins with FERC issuing SD1, federal and state resource agencies, non-governmental organizations and Indian tribes, and interested parties will have the opportunity to provide input and refine the resource issues to be analyzed in Erie's license application.

During the previous relicensing, the licensee conducted various studies and potential impacts were reviewed and assessed by FERC, federal and state agencies and stakeholders. As a result, the Project's existing license includes protection, enhancement and mitigation measures that were implemented to address Project effects, such as implementation of downstream minimum flows for the benefit of aquatic and fisheries resources, implementation of recreation facilities, and assessment of cultural resources. Erie at this time is not proposing any alterations to existing project facilities and operations. Therefore, Erie anticipates minimal project-related issues and study needs associated with the current relicensing proceeding.

6.1.1 GEOLOGY AND SOILS

The continued operation of the West Canada Creek Project is not anticipated to have any adverse effects on geology and soil resources in the Project area. The USFWS raised potential issues associated with erosion and scouring in the impoundment and streambanks. There are currently no known existing occurrences of shoreline erosion associated with the Project facilities or operations. The existing shoreline composition is established based on existing operations and conditions at the Project. As discussed in Section 5.3, a significant portion of the geology in the area consists of steep gorge walls of bedrock and limestone substrates, and existing waterfalls with significant elevation drops. The portion of the Project area with more gradual sloping shorelines (i.e., the Prospect impoundment) is predominantly vegetated and experiences relatively minimal impoundment elevation changes (less than 5 feet). Erie does not propose any studies related to geology and soils; however, Erie will identify areas of erosion or scouring encountered during the field study component as part of the proposed Habitat Mapping Study (see Section 6.2).

6.1.2 WATER RESOURCES

The West Canada Creek Project is operated to meet the required downstream minimum flow of 160 cfs. Erie is proposing no changes to these existing Project operations, including no changes to provisions to maintain the 160 cfs minimum flow. The USFWS raised potential issues associated with bypassed reach flows, downstream flows, Project peaking and ponding operations and water quality. NYSDEC raised potential issue of thermal pollution and minimum flows on with fish and aquatic resources. MVWA stated that the Project operations adversely affect their SPDES permit that was originally implemented in 1990 (see Section 5.4). The USEPA stated that Hinckley Reservoir and West Canada Creek are on 303(d) list of impaired waters.

As summarized in Section 5.4.7, the reach of the West Canada Creek within the Project area was classified as impaired for aquatic life and for habitat/hydrology on the Waterbody Inventory, but

was not included on NYSDEC's Section 303(d) list of impaired/TMDL waters⁷. Water quality sampling conducted at Trenton Falls Road (immediately downstream of the Project) as part of the RIBS Intensive Network monitoring in 2006, indicated non-impacted conditions and that samples were dominated by clean-water species and aquatic life community was fully supported. Therefore, Erie is not proposing any studies associated with this resource.

6.1.3 FISH AND AQUATIC RESOURCES

As summarized in Section 5.5, the existing fisheries resource is comprised of a successful downstream stocked fishery. No known issues associated with the Prospect impoundment fisheries resources has been identified. The Project bypass reaches are comprised of limestone and bedrock substrates, predominantly within a channelized gorge which affords limited access and limited aquatic habitat. NYSDEC raised potential issue of thermal pollution and minimum flows on fish and aquatic resources. Mohawk Valley Chapter of Trout Unlimited commented that flow rates need to be increased. USFWS raised the issue of potential Project effects on fisheries, fish protection and passage, and macroinvertebrates/mussels. In order to further characterize the existing aquatic habitat in the Project boundary, Erie proposes to conduct an Aquatic Habitat Mapping Study (see Section 6.2.1), and will consult with stakeholders in the development of the study plan under the ILP study plan process.

6.1.4 WILDLIFE AND BOTANICAL RESOURCES

There are currently no known issues regarding wildlife and botanical resources within the Project area or associated with the Project facilities or operations. Erie is not proposing any studies associated with this resource.

6.1.5 WETLANDS, RIPARIAN, AND LITTORAL HABITAT

There are currently no known issues regarding wetlands, riparian and littoral habitat resources within the Project area or associated with the Project facilities or operations. Therefore, Erie is not proposing any studies associated with this resource.

⁷ The segment of the West Canada Creek within the Project area is not included on the 303(d) list; however, portions of the upper and minor tributaries of West Canada Creek (water index No. H-240-180, portion 5 and H-240-180, portion 6) upstream of the Project are included on the final 2016 Section 303(d) list due to acid/base (ph) with suspected source of atmospheric deposition (New York State 2016)

6.1.6 RARE, THREATENED, AND ENDANGERED SPECIES

As described in Section 5.8, the USFWS IPaC review identified the northern long-eared bat (*Myotis septentrionalis*) as a federally threatened species, and no critical habitats within the Project area (USFWS 201). The NYSDEC indicated that a known pair of breeding bald eagles is known to frequent the Project area (correspondence from Todd Philips, NYSDEC). There are currently no known issues associated with RTE species at the Project. Therefore, Erie is not proposing any studies associated with this resource.

6.1.7 RECREATION AND LAND USE

American Whitewater raised issues of impacts of project operations on downstream whitewater boating opportunities. NYSDEC identified recreation use at Prospect reservoir including boaters and kayakers and fishermen, and on West Canada Creek downstream of the Project. There are currently no known issues regarding recreation and land use resources within the Project area or associated with the Project facilities or operations. The area downstream of the Project is identified as a premiere trout fishing destination in New York state. The existing Form 80 data indicate Project recreation facilities are well below capacity. However, Erie proposes to conduct a Recreation Study to in order to further characterize existing recreation facilities and access at the Project (see Section 6.2.1), and will consult with stakeholders in the development of the study plan under the ILP study plan process.

6.1.8 AESTHETIC RESOURCES

There are currently no known issues regarding aesthetic resources within the Project area or associated with the Project facilities or operations. Therefore, Erie is not proposing any studies associated with this resource.

6.1.9 CULTURAL RESOURCES

As summarized in Section 5.11, a review of the NYOPRHP CRIS identified one property, outside of the Project area, and the Trenton Powerhouse (eligible for listing on the National Register of Historic Places) which has previously undergone HAER documentation (HAER 1993). NYSDEC noted that the area was archaeosensitive. Erie is proposing no changes in Project operations and facilities, and there are currently no known issues regarding cultural

resources within the Project area or associated with the Project facilities or operations. Therefore, Erie is not proposing any studies associated with this resource.

6.1.10 SOCIOECONOMIC RESOURCES

There are currently no known issues regarding socio-economic resources within the Project area or associated with the Project facilities or operations. Therefore, Erie is not proposing any studies associated with this resource.

6.1.11 TRIBAL RESOURCES

There are currently no known issues regarding Tribal Resources within the Project area or associated with the Project facilities or operations. Therefore, Erie is not proposing any studies associated with this resource.

6.2 POTENTIAL STUDIES AND INFORMATION GATHERING

6.2.1 PROPOSED STUDIES

Erie believes that adequate information exists to assess Project effects on the resource areas, with the exception of the following potential studies and information gathering that may be needed to analyze the resource issues identified in Section 6.1.

- Aquatic Habitat Mapping Study - Erie proposes to conduct a study to map the distribution and abundance of aquatic habitat within the West Canada Creek Project boundary to evaluate the types of aquatic habitats that occur there, and identify potential effects of operations of the Project on this habitat. The habitat mapping and accompanying characterization of aquatic mesohabitat will provide essential information regarding the character and extent of aquatic habitat that may potentially be affected by Project operation. The quantified spatial data generated by this survey will help to provide a framework for any data analysis efforts relative to project operations and maintenance.
- Recreation Study – Erie proposes to conduct a recreation study to inventory existing recreation facilities and characterize existing recreation use and access at the Project, including the Prospect boat launch and the Trenton trail public access events (during the Spring and Fall 2018 events).

In accordance with 18 CFR §5.11, Erie will file with FERC its proposed study plan within 45 days following the deadline for filing comments on the PAD and SD1. Erie may further refine

these studies based on comment received on this PAD, from the FERC scoping meeting, and filed study requests received from stakeholders.

6.2.2 STUDY REQUESTS

In the development of the PAD, the Licensee collected and summarized the reasonably available information regarding the Project and its effects on the human and natural environments.

Licensing participants may request additional studies or investigations as specified by 18 CFR § 5.9(b); requested studies must follow FERC's ILP Study Request Criteria (FERC 2012) as stated below:

- Describe the goals and objectives of each study proposal and the information to be obtained;
- If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied;
- If the requestor is not a resource agency, explain any relevant public interest considerations regarding the proposed study;
- Describe existing information concerning the subject of the study proposal, and the need for additional information;
- Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements;
- Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge; and
- Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.

Study requests must be filed with the FERC, and may be electronically filed at www.ferc.gov citing the FERC Docket No. P-2701. Study requests must be filed within 60 days of FERC's notice of the filing of the NOI and PAD and issuance of FERC's SD1 (see Section 3.1 Process Plan and Schedule). In addition, study requests should be sent to: Steven Murphy, Director, Licensing, Brookfield Renewable, 33 West 1st Street South, Fulton, New York 13069; email: steven.murphy@brookfieldrenewable.com.

7.0 RELEVANT COMPREHENSIVE MANAGEMENT PLANS

7.1 COMPREHENSIVE WATERWAY PLANS

Section 10(a)(2)(A) of the FPA, 16 U.S.C. section 803 (a)(2)(A), requires FERC to consider the extent to which a project is consistent with Federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project. On April 27, 1988, the Commission issued Order No. 481-A, revising Order No. 481, issued October 26, 1987, establishing that the Commission will accord FPA section 10(a)(2)(A) comprehensive plan status to any Federal or state plan that: (1) is a comprehensive study of one or more of the beneficial uses of a waterway or waterways; (2) specifies the standards, the data, and the methodology used; and (3) is filed with the Secretary of the Commission.

FERC currently lists 43 comprehensive plans for the State of New York (FERC 2018), or which the following 9 comprehensive plans pertain to waters in the vicinity of the Project:

- Adirondack Park Agency. n.d. New York State wild, scenic, and recreational rivers system field investigation summaries. Albany, New York.
- National Park Service. The Nationwide Rivers Inventory. Department of the Interior, Washington, D.C. 1993.
- New York Department of Environmental Conservation. 1979. Hudson River Basin water and related land resources: Level B study report and environmental impact statement. Albany, New York. September 1979.
- New York Department of Environmental Conservation. 1985. New York State Wild, Scenic, and Recreational River System Act. Albany, New York. March 1985.
- New York Department of Environmental Conservation. 1986. Regulation for administration and management of the wild, scenic, and recreational rivers system in New York State excepting the Adirondack Park. Albany, New York. March 26, 1986.
- New York State Office of Parks, Recreation, and Historic Preservation. New York Statewide Comprehensive Outdoor Recreation Plan: 2003- 2007. Albany, New York. January 2003⁸.
- State of New York Hudson River Regulating District. 1923. General plan for the regulation of the flow of the Hudson River and certain of its tributaries. Albany, New York. June 7, 1923.

⁸ Note: An updated version of the New York State Office of Parks, Recreation and Historic Preservation, Statewide Comprehensive Outdoor Recreation Plan 2014-2019 is available (NYOPRHP 2014).

- U.S. Fish and Wildlife Service. Canadian Wildlife Service. 1986. North American waterfowl management plan. Department of the Interior. Environment Canada. May 1986.
- U.S. Fish and Wildlife Service. n.d. Fisheries USA: the recreational fisheries policy of the U.S. Fish and Wildlife Service. Washington, D.C.

7.2 RELEVANT RESOURCE MANAGEMENT PLANS

In addition to the comprehensive plans listed above, some agencies have developed resource management plans to help guide their actions regarding specific resources of jurisdiction. The resource management plans listed below may be relevant to the Project and may be useful in the relicensing proceeding for characterizing desired conditions.

- New York State Department of Environmental Conservation. 2014. Black Bear Management Plan for New York State. Albany, NY.
- New York State Department of Environmental Conservation. 2011. Management Plan for White-tailed Deer in New York State 2012-2016. Albany, NY.
- New York State Department of Environmental Conservation. 2012. Management Plan for Bobcat in New York State 2012-2017. Albany, NY.
- New York State Department of Environmental Conservation. 2015. New York State Fisher Management Plan. Albany, NY.
- New York State Department of Environmental Conservation. 2005. New York State Wild Turkey Management Plan. Albany, NY.
- New York State Department of Environmental Conservation. 2011. New York State Invasive Species Management Strategy. Ecology and Environment, Inc.

8.0 LITERATURE AND EXISTING INFORMATION SOURCES CITED

- Adirondack.net. 2017. The Adirondack Park. Available: <https://www.adirondack.net/about/adirondack-park/>. Accessed December 2017.
- Adirondack North County Association. 2011. Scenic Byways. Available: <http://www.adirondackscenicbyways.org/county/oneida-county.html>. Accessed December 2017.
- Adirondack Park Agency. 2017a. Geology of the Adirondack Park. Available: https://apa.ny.gov/About_park/geology.htm. Accessed December 2017.
- Adirondack Park Agency. 2017b. The Adirondack Park. Available: https://www.apa.ny.gov/About_Park/index.html. Accessed December 2017.
- Adirondack Regional Tourism Council. 2017a. Adirondack Park Recreation. Available: <http://visitadirondacks.com/discover/search>. Accessed December 2017.
- Adirondack Regional Tourism Council. 2017b. Southern Adirondack Trail. Available: <http://visitadirondacks.com/attractions/byways/southern-adirondack-trail>. Accessed December 2017.
- American Whitewater. 2018. West Canada Creek – Trenton Falls to Herkimer. Available: <https://www.americanwhitewater.org/content/River/detail/id/1453>. Accessed January 2018.
- Brett, C. E., and F.R. Caudill. 2004a. Fossil Fauna of the Trenton Group, Phylum Arthropoda. Available: <http://www.mcz.harvard.edu/Departments/InvertPaleo/Trenton/Intro/PaleoPage/TrentonFauna/TrentonFauna.htm>. Accessed January 2018.
- Bode, R.W., M.A. Novak, L.E. Abele, D.L. Heitzman, and A.J. Smith. 2004. Thirty-year trends in water quality of rivers and streams in New York State based on macroinvertebrate data, 1972-2002. Mohawk River Drainage. Stream Biomonitoring Unit, Division of Water, NY State Department of Environmental Conservation. Albany.
- Bryce, S.A., Griffith, G.E., Omernik, J.M., Edinger, G., Indrick, S., Vargas, O., and Carlson, D., 2010, Ecoregions of New York (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey, map scale 1:1,250,000.
- Bureau of Indian Affairs (BIA). 2018. Eastern Region. Available: <https://www.bia.gov/regional-offices/eastern>. Accessed January 2018.
- Call Mohawk Valley Home. 2017. Education. Sponsored by Oneida County Industrial Development Agency. Available: <http://www.callmohawkvalleyhome.org/listing.asp?categoryID=4>. Accessed December 2017.
- Camp Northwood. 2017. Camp Northwood Website. Available: <https://nwood.com/>. Accessed December 2017.

- Capital Mohawk PRISM. 2018. Capital Mohawk PRISM. Available:
<http://www.capitalmohawkprism.org/about-us.html> Accessed January 2018.
- Cornell, S. R., and C. E. Brett. 2001. Revisiting the Mohawkian Black River, Trenton Group Boundary Issue from the Perspective of Sequence Stratigraphy. Geological Society of America, Northeast Section Meeting Abstracts with Programs, 33(1):71. Available at:
https://gsa.confex.com/gsa/2001NE/finalprogram/abstract_2853.htm Accessed February 2018.
- Data USA. 2017. Herkimer County, NY. Available: <https://datausa.io/profile/geo/herkimer-county-ny/>. Accessed December 2017.
- Elliott J.M and J.A. Elliott 2010. Temperature requirements of Atlantic salmon *Salmo salar*, brown trout *Salmo trutta* and Arctic charr *Salvelinus alpinus*: predicting the effects of climate change. Journal of Fish Biology, 77, 1793–1817.
- Erie Boulevard Hydropower (Erie). 2015a. FERC Form 80 for Prospect Development, April 2015.
- Erie. 2015b. FERC Form 80 for Trenton Development, April 2015.
- Erway, W.D. 2012. West Canada Creek Creel Survey 2007. NYSDEC, Region 6, Bureau of Fisheries, 207 Genesee St, Utica, NY, February 2012.
- Federal Energy Regulatory Commission (FERC). 2012. A Guide to Understanding and Applying the Integrated Licensing Process Study Criteria. Federal Energy Regulatory Commission, Office of Energy Project, March 2012. Available:
<https://www.ferc.gov/industries/hydropower/gen-info/guidelines/guide-study-criteria.pdf> Accessed February 2018.
- FERC. 2018. List of Comprehensive Plans, Federal Energy Regulatory commission Office of Energy Projects, Washington, DC, January 2018. Available:
<https://www.ferc.gov/industries/hydropower/gen-info/licensing/complan.pdf> Accessed January 2018.
- Ferree, C and M. G. Anderson. 2013. A Map of Terrestrial Habitats of the Northeastern United States: Methods and Approach. The Nature Conservancy, Eastern Conservation Science, Eastern Regional Office. Boston, MA. Available:
<https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/terrestrial/habitatmap/Pages/default.aspx> Accessed December 2017.
- Go Botany. 2017. Go Botany: Discover thousands of New England Plants. 2017. Available:
<https://gobotany.newenglandwild.org> Accessed December 2017.
- Harvard University. 2004. Geomorphology of Trenton Falls. Available at:
http://www.mcz.harvard.edu/Departments/InvertPaleo/Trenton/Intro/GeologyPage/Geologic%20Setting/geomorph_falls.htm#prospectfall Accessed January 2018
- Herkimer County. 2017. GIS Map. Image Mate Online. Available:
<http://herkimercounty.sdgny.com/search.aspx>. Accessed December 2017.

- Herkimer- Oneida Counties Comprehensive Planning Program (HOCCP). 1989. Hinckley Reservoir Study. Prepared for the Towns of Russia, Ohio and Remsen, Prepared by the Herkimer- Oneida Counties Comprehensive Planning Program, Utica New York, May 1989.
- Hinckley Reservoir Working Group (HRWG). 2008. Report to the Governor: Available: https://www.health.ny.gov/environmental/investigations/hinckley_reservoir/ Accessed December 2017.
- Historic American Engineering Record, Creator (HAER). 1993. Trenton Falls Hydroelectric Station, Oneida County, New York, 1993. Available: <https://www.loc.gov/item/ny1368/> Accessed December 2017.
- Ichthyological Associates Inc. 1981a. Fish Habitat-Flow Relationship at Six Study Releases Below Trenton Hydroelectric Station on West Canada Creek, New York, During August and September 1980, Prepared by Ichthyological Associates Inc., for Niagara Mohawk Power Corporation, February 1981.
- Ichthyological Associates Inc. 1981b. Temperature Monitoring, West Canada Creek, Oneida and Herkimer Counties, New York, June-September 1980. Prepared by Ichthyological Associates Inc., for Niagara Mohawk Power Corporation, February 1981.
- Miller, W.J. 1908. Highly Folded between Non-Folded Strata at Trenton Falls, N.Y. Available: <https://www.jstor.org/stable/pdf/30059776.pdf>. Accessed December 2017.
- Milone & MacBroom, Inc. 2014. Emergency Transportation Infrastructure Recovery Water Basin Assessment and Flood Hazard Mitigation Alternatives: West Canada Creek, Herkimer County, New York. April 2014. Available: https://wri.cals.cornell.edu/sites/wri.cals.cornell.edu/files/shared/documents/2014_West_Canada_Creek_Assessment.pdf. Accessed December 2017.
- Mohawk River Watershed Coalition (MRWC). 2015. The Mohawk River Watershed Management Plan. Available: http://mohawkriver.org/wp-content/uploads/2015/03/MohawkWatershedMgmtPlan_Mar2015_Final_r.pdf Accessed December 2017.
- Mohawk Valley Water Authority (MVWA). 2018. Mohawk Valley Water Authority Water Service Rates and Fees Calendar Year 2018. Available: <https://www.mvwa.us/Finance/Annual%20Financial%20Reporting/MVWA%20Rates%20and%20Fees/MVWA%20Rates%20and%20Fees%20Booklet--January%201%202018.pdf> Accessed January 2018.
- National Park Service (NPS). 2017a. National Trails System. U.S. Department of the Interior. Available: <https://www.nps.gov/nts/info.html>. Accessed December 2017.
- NPS. 2017b. National Register of Historic Places. New York State Barge Canal. Available: <https://www.nps.gov/nr/feature/places/14000860.htm>. Accessed December 2017.
- NPS. 2009. New York Segments: Nationwide Rivers Inventory. National Park Service: National Center for Recreation & conservation. Available: <https://www.nps.gov/ncrc/programs/rtca/nri/states/ny.html>. Accessed: December 2017.

- New York Independent System Operator (NYISO). 2017. Load & Capacity Data Report. Available:
http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Documents_and_Resources/Planning_Data_and_Reference_Docs/Data_and_Reference_Docs/2017_Load_and_Capacity_Data_Report.pdf. Accessed December 2017.
- New York Power Authority (NYPA). 2017. Pre-Application Document Gregory B. Jarvis Project Relicensing (FERC No. 3211), dated June 2017. Available:
http://www.jarvis.nypa.gov/Lists/JARVIS%20Relicensing%20Documents/Attachments/125/Jarvis_PAD.pdf Accessed December 2017.
- New York State Department of Environmental Conservation (NYSDEC). 2010. Mohawk River Basin Waterbody Inventory and Priority Waterbodies List. Bureau of Watershed Assessment and Management.
http://www.dec.ny.gov/docs/water_pdf/pwlmhkw10wimohawkmidwcanada.pdf
Accessed February 2018.
- New York State. 2016. The Final New York State Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy, November 2016. Available:
http://www.dec.ny.gov/docs/water_pdf/303dListfinal2016.pdf. Accessed February 2018.
- New York State. 2018a. Official Compilation of Codes, Rules and Regulations of the State of New York, Title 6. Department of Environmental Conservation, Chapter X. Division of Water Resources, Subchapter B. Classes and Standards of Quality and Purity Assigned to Fresh Surface and Tidal Salt Waters, Article 11. Mohawk River Drainage Basin Series, Part 880. West Canada Creek Drainage Basin. Available:
[https://govt.westlaw.com/nycrr/Document/I4edf45bacd1711dda432a117e6e0f345?viewType=FullText&transitionType=Default&contextData=\(sc.Default\)](https://govt.westlaw.com/nycrr/Document/I4edf45bacd1711dda432a117e6e0f345?viewType=FullText&transitionType=Default&contextData=(sc.Default)) Accessed January 2018.
- New York State. 2018b. Official Compilation of Codes, Rules and Regulations of the State of New York, Title 6 Department of Environmental Conservation Chapter X Division of Water Resources Subchapter A. General Article 2. Classifications and Standards of Quality and Purity Part 701 Classifications--Surface Waters and Groundwaters. Available:
[https://govt.westlaw.com/nycrr/Browse/Home/NewYork/NewYorkCodesRulesandRegulations?guid=I0682f230b5a111dda0a4e17826ebc834&originationContext=documenttoc&transitionType=Default&contextData=\(sc.Default\)](https://govt.westlaw.com/nycrr/Browse/Home/NewYork/NewYorkCodesRulesandRegulations?guid=I0682f230b5a111dda0a4e17826ebc834&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default)) Accessed January 2018.
- New York State. 2018c. Official Compilation of Codes, Rules and Regulations of the State of New York, Title 6 Department of Environmental Conservation Chapter X Division of Water Resources Subchapter A. General Article 2. Classifications and Standards of Quality and Purity Part 703. Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations. Available:
[https://govt.westlaw.com/nycrr/Document/I4ed90412cd1711dda432a117e6e0f345?viewType=FullText&transitionType=Default&contextData=\(sc.Default\)](https://govt.westlaw.com/nycrr/Document/I4ed90412cd1711dda432a117e6e0f345?viewType=FullText&transitionType=Default&contextData=(sc.Default)) Accessed January 2018.
- New York State. 2017d. Central New York: Oneida. Available:
<http://www.ny.gov/counties/oneida>. Accessed December 2017.

- New York State. 2017e. Central New York: Herkimer. Available:
<http://www.ny.gov/counties/herkimer>. Accessed December 2017.
- New York State Canal Corporation (NYSCC). 2018a. New York Canal Corporation. Hours of Operation, 2018 Navigation Season. Available:
<http://www.canals.ny.gov/boating/hours.html> Accessed February 2018.
- NYSCC. 2018b. Hinckley Reservoir Water Levels Data. Available:
<http://www.canals.ny.gov/wwwapps/waterlevels/hinckley/hinckleywaterlevels.aspx>
Accessed January 2018.
- New York State Community Action Association. 2017. Poverty Data. February 2017. Available:
<https://nyscommunityaction.org/poverty-in-new-york/povertydata/>. Accessed December 2017.
- New York State Department of Environmental Conservation (NYSDEC). 2010. Mohawk River Basin Waterbody Inventory and Priority Waterbodies List: Middle West Canada Creek Watershed. Bureau of Watershed Assessment and Management. Available:
http://www.dec.ny.gov/docs/water_pdf/wimohawklowcanada.pdf Accessed January 2018.
- NYSDEC. 2012. Mohawk River Basin Action Agenda 2012-2016. Available:
http://www.dec.ny.gov/docs/water_pdf/mohawkactagenda.pdf Accessed December 2017.
- NYSDEC. 2017a. Upper Hudson Basin. Available:
http://www.dec.ny.gov/docs/wildlife_pdf/upperhudsontxt.pdf Accessed December 2017.
- NYSDEC. 2017b. List of endangered, threatened and special concern fish and wildlife species of New York State. Available: <http://www.dec.ny.gov/animals/7494.html> Accessed December 2017.
- NYSDEC. 2017c. Nature Explorer. Available: <http://www.dec.ny.gov/natureexplorer> Accessed: December 2017.
- NYSDEC. 2017d. Hinckley Reservoir Picnic Area. Available:
<http://www.dec.ny.gov/outdoor/9179.html>. Accessed December 2017.
- NYSDEC. 2017e. Black River Wild Forest. Available:
<http://www.dec.ny.gov/lands/75310.html#Hiking> Accessed December 2017.
- NYSDEC. 2017f. Hinckley State Forest. Available: <http://www.dec.ny.gov/lands/107746.html>. Accessed December 2017.
- NYSDEC. 2017g. Wild, Scenic and Recreational Rivers. Available:
<http://www.dec.ny.gov/permits/6033.html> Accessed January 2018.
- NYSDEC. 2018a. NYSDC ENB Region 6 Completed Applications 11/16/2016. Available:
http://www.dec.ny.gov/enb/20161116_reg6.html Accessed February 2018.
- NYSDEC. 2018b. NYSDC State Pollutant Discharge Elimination System (SPDES) Permit Program Available: <http://www.dec.ny.gov/permits/6054.html> Accessed February 2018.
- NYSDEC. 2018c. Water Quality Standards and Classifications. Available:
<http://www.dec.ny.gov/chemical/23853.html> Accessed January 2018.

- NYSDEC. 2018d. Rotating Integrated Basin Studies. Available:
<http://www.dec.ny.gov/chemical/30951.html> Accessed January 2018.
- NYSDEC. 2018e. Fishing the West Canada Creek. Available:
<http://www.dec.ny.gov/outdoor/9238.html> Accessed January 2018.
- NYSDEC. 2018f. Fish Stocking List (Actual) Beginning 2011. Available
at: <https://data.ny.gov/Recreation/Fish-Stocking-Lists-Actual-Beginning-2011/e52k-ymww> Accessed January 2018.
- NYSDEC. 2018g. Freshwater Fishing Regulations. Available:
<http://www.dec.ny.gov/outdoor/7917.html> Accessed January 2018.
- NYSDEC. 2018h. New York Nature Explorer. Filter: Oneida and Herkimer Counties. Available:
<http://www.dec.ny.gov/natureexplorer/app/>. Accessed January 2018.
- NYSDEC. 2018i. Partnerships for Regional Invasive Species Management (PRISM). Available:
<http://www.dec.ny.gov/animals/47433.html> Accessed January 2018.
- NYSDEC. 2018j. Environmental Resource Mapper. Available: <http://www.dec.ny.gov/gis/erm>.
Accessed January 2018.
- New York State Department of Homeland Security and Emergency Services (NYSDHS and
Emergency Services). 2017. Earthquake Hazard Profile. Available:
[http://www.dhses.ny.gov/recovery/mitigation/archive/documents/2008/S3.I.i_Earthquake
Hazard_Profile.pdf](http://www.dhses.ny.gov/recovery/mitigation/archive/documents/2008/S3.I.i_Earthquake_Hazard_Profile.pdf). Accessed December 2017.
- New York State Department of Labor. 2015. Mohawk Valley Significant Industries: A Report to
the Workforce Development System. Bureau of Labor Market Information Division of
Research and Statistics. Available: [https://labor.ny.gov/stats/PDFs/Significant-Industries-
Mohawk-Valley.pdf](https://labor.ny.gov/stats/PDFs/Significant-Industries-Mohawk-Valley.pdf). Accessed December 2017.
- New York State Department of Transportation (NYSDOT). 2013. Geotechnical Design Manual:
Chapter 3, Geology of New York State. Available:
[https://www.dot.ny.gov/divisions/engineering/technical-services/geotechnical-
engineering-bureau/geotech-eng-repository/GDM_Ch-3_Geology_of_NY.pdf](https://www.dot.ny.gov/divisions/engineering/technical-services/geotechnical-engineering-bureau/geotech-eng-repository/GDM_Ch-3_Geology_of_NY.pdf). Accessed
December 2017.
- New York State Heritage Program (NYSHP). 2017. Rare Animal Status List. New York State
Department of Environmental Conservation. Available:
http://www.dec.ny.gov/docs/wildlife_pdf/rareanimal2017.pdf Accessed December 2017.
- New York State Office of Parks, Recreation and Historic Preservation (NYOPRHP). 2014. New
York Statewide Comprehensive Outdoor Recreation Plan 2014-2019. Available:
[https://parks.ny.gov/inside-our-
agency/documents/201419StatewideComprehensiveOutdoorRecreationPlan.pdf](https://parks.ny.gov/inside-our-agency/documents/201419StatewideComprehensiveOutdoorRecreationPlan.pdf).
Accessed December 2017.
- NYOPRHP. 2017. Welcome to the Adirondack Region. Available:
<https://parks.ny.gov/regions/adirondack/default.aspx>. Accessed December 2017.
- NYOPRHP. 2018. Cultural Resource Information System (CRIS). Available:
<https://cris.parks.ny.gov/> Accessed January 2018.

- Niagara Mohawk Power Corporation (NMPC).1980. Application for License for Major Project, West Canada Creek Hydropower Project (FERC No. 2701).
- NMPC. 1981. Habitat-Flow Assessment of the West Canada Creek, West Canada Creek Project (FERC Project No. 2701).
- Northern New York Waterfalls. 2017. Trenton Falls. Available:
<http://www.nnywaterfalls.com/westcanadacreek/trentonfalls/> Accessed February 2018.
- Oneida County. 2017. Regional Profile – Oneida and Herkimer Counties. Available:
<http://ocgov.net/oneida/planning/regionalprofile>. Accessed December 2017.
- Pratt and Pratt Archeological Consultants. 1978. Cultural Resources Survey of the Proposed Trenton Redevelopment Project.
- St. Lawrence – Eastern Lake Ontario Partnership for Regional Invasive Species Management (SLELO) PRISM. 2018. St. Lawrence – Eastern Lake Ontario Partnership for Regional Invasive Species Management PRISM. Available: <http://www.sleloinvasives.org/about/> Accessed January 2018.
- Strauss, Peter L. 1973. The New York Wild, Scenic and Recreational Rivers System Act. Journal of Urban and Contemporary Law. Volume 1973. Available:
<https://academiccommons.columbia.edu/catalog/ac%3A199375> Accessed December 2017.
- The Nature Conservancy. 2017. Northeast Habitat Map. Available:
<http://maps.tnc.org/nehabitatmap/> Accessed December 2017.
- Town of Russia. 2005. Town of Russia Comprehensive Plan. Revision A, As Adopted March 2005. Available:
<http://townofrussia.com/content/Generic/View/1:field=documents:/content/Documents/File/9.pdf>. Accessed December 2017.
- Town of Russia. 2012. Town of Russia Land Use Regulation Law. December 10, 2012. Available: <http://townofrussia.com/content/Laws/View/1>. Accessed December 2017.
- Town of Trenton. 2011. Town of Trenton Master Plan. Adopted February 9, 2011. Available:
<http://town.trenton.ny.us/content/Generic/View/12:field=documents:/content/Documents/File/678.pdf>. Accessed December 2017.
- Town of Trenton. 2007. Town of Trenton Master Plan for Recreational Trails. Adopted April 18, 2007. Available:
<http://town.trenton.ny.us/content/Boards/View/4:field=documents:/content/Documents/File/254.pdf>. Accessed December 2017.
- Town of Trenton. 2009. Trenton Code: Chapter 86 Zoning. Available:
<http://town.trenton.ny.us/content/Laws/View/36:field=documents:/content/Documents/File/478.pdf>. Accessed December 2017.
- Town of Trenton. 2017. Town of Trenton Website. Available:
<http://town.trenton.ny.us/content/Parks/View/4>. Accessed: December 2017.
- Trails End Campground. No Date. Available: <http://www.trailend.com/index.html>. Accessed December 2017.

- United States Census Bureau (Census Bureau). 2017a. American FactFinder Available: https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml#. Accessed January 2018.
- Census Bureau. 2017b. Quick Facts, Oneida County and Herkimer County, New York. United States Census Bureau. Available: <https://www.census.gov/quickfacts/fact/table/NY,oneidacountynewyork,herkimercountynewyork/PST045217> Accessed December 2017.
- United States Department of Agriculture (USDA). 2017. United States Department of Agriculture Plants Database. 2017. Available: <https://plants.usda.gov/java/> Accessed: December 2017.
- United States Department of Agriculture (USDA). 2018. Soil Survey of Oneida County, NY. United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with Cornell University Agricultural Experiment Station. Available: https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/new_york/NY065/0/oneida.pdf Accessed January 2018.
- United States Department of Agriculture, Natural Resources Conservation Service (NRCS). 2018 Web Soil Survey. Available: <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed January 2018.
- Multi-Resolution Land Characteristics Consortium (MRLC) 2011. National Landcover Database 2011. Available: <https://www.mrlc.gov/finddata.php>. Accessed December 2017.
- United States Environmental Protection Agency (USEPA) 2018. Summary of the Clean Water Act. Available: <https://www.epa.gov/laws-regulations/summary-clean-water-act> Accessed January 2018.
- United States Fish and Wildlife Service (USFWS). 2017a. United States Fish and Wildlife Service National Wetlands Inventory. Surface waters and wetlands data mapper. Available: <https://www.fws.gov/wetlands/data/Mapper.html> Accessed: December 2017
- USFWS. 2017b. ECOS – Environmental Conservation Online System. Available: <http://ecos.fws.gov/ecp/> Accessed: December 2017
- USFWS. 2018a. New York Ecological Services Field Office: Official Species List. Conducted February 20, 2018.
- USFWS. 2018b. Information for Planning and Consultation Resource List (IPaC). Conducted February 20, 2018.
- United States Geological Survey (USGS). 2017. New York Geologic Map Data. Available: <https://mrdata.usgs.gov/geology/state/state.php?state=NY>. Accessed December 2017.
- Waterline. 2018. Waterline Website – West Canada Creek at Trenton Falls. Available: <http://www.h2oline.com/default.aspx?pg=si&op=365124> Accessed February 2018.
- West Canada Creek Campsites. 2018. West Canada Creek Campsites Website. Available: <http://www.westcanadacreekcampsites.com/> Accessed February 2018.

- West Canada Creek Tubing. 2018. West Canada Creek Tubing Website. Available:
<http://www.westcanadacreektubing.com/home.html> Accessed February 2018.
- Wild and Scenic Rivers. 2017. National Wild and Scenic River System: About the WSR Act.
Available: <https://www.rivers.gov/wsr-act.php>. Accessed December 2017.
- Wilderness.net. 2017. National Wilderness Areas Interactive Map. ESRI. Available:
<http://www.wilderness.net/map>. Accessed December 2017.

APPENDIX A

WEST CANADA CREEK PROJECT LICENSE AND TRANSFER ORDERS

1983 LICENSE, 1989 LICENSE AMENDMENT, AND 1999 TRANSFER OF LICENSE

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Niagara Mohawk Power Corporation)

Project No. 2701-001

ORDER ISSUING LICENSE (MAJOR)

(Issued March 18, 1983)

Niagara Mohawk Power Corporation (NMPC) has filed an application for license under Part I of the Federal Power Act (Act) to re-construct, operate, and maintain the West Canada Creek Project No. 2701. 1/ The project is located on West Canada Creek, a navigable waterway of the United States and a tributary of the Mohawk River, in the Towns of Trenton and Russia, Oneida and Herkimer Counties, New York.

Notice of the application has been published and comments have been received from interested Federal, State, and local agencies. No protests have been received, and none of the agencies objected to issuance of the license. The County of Oneida, New York, and the Public Service Commission of New York (PSC) were granted intervention. The significant concerns of the intervenors and commenting agencies are discussed below.

The Proposed Project

The project consists of the Prospect and Trenton Developments. At the Prospect Development, water is diverted through a canal and forebay, then through a penstock to a turbine/generator unit with a rated capacity of 17,325 kW. At the downstream Trenton Development, water is diverted through two pipelines to two adjoining powerhouses located about 3,800 feet downstream of the

1/ Authority to act on this matter is delegated to the Director, Office of Electric Power Regulation, under §375.308 of the Commission's regulations, 18 C.F.R. §375.308 (1982), FERC Statutes and Regulations ¶30,238. This order may be appealed to the Commission by any party within 30 days of its issuance pursuant to Rule 1902, 18 C.F.R. §385.1902, FERC Statutes and Regulations ¶29,052, 47 Fed. Reg. 19014 (1982). Filing an appeal and final Commission action on that appeal are prerequisites for filing an application for rehearing as provided in Section 313(a) of the Act. Filing an appeal does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically directed by the Commission.

dam. Powerhouse No. 1, constructed in 1901, contains four units rated at 1,000-kW each. Powerhouse No. 2, constructed in 1918, contains one unit rated at 7,400 kW and two units rated at 6,400 kW each, for a total installed capacity at the Trenton Development of 24,200 kW.

NMPC proposes the development of a day-use recreational area at the Prospect Development. With respect to the Trenton Development, NMPC proposes to: (1) replace the water intakes, tunnel and pipelines with a new intake structure, a new tunnel and a new pipeline; (2) replace Powerhouse No. 1 with a new powerhouse in the same location containing a new generating unit rated at 10,000 kW; and (3) rehabilitate the Powerhouse No. 2 generating units and appurtenances. The total installed capacity of the Trenton Development would be increased to 30,200 kW.

A more detailed project description is contained in ordering paragraph (B).

Jurisdiction

There is sufficient evidence that West Canada Creek has been used over an extended period of time for transporting logs from its upstream tributaries to its mouth at the Mohawk River. Logging began there about 1790 and continued throughout the 1800's. In 1854 the State of New York declared West Canada Creek navigable. It is concluded that West Canada Creek is a navigable waterway of the United States throughout its length.

For this reason, Section 23(b) of the Act requires that the project be licensed.

Safety and Adequacy

The Prospect spillway has a capacity of 60,000 cfs and is considered adequate to pass the Probable Maximum Flood (PMF). The Trenton spillway has a capacity of only 24,000 cfs and is not adequate to pass the PMF. The PMF would cause overtopping of the 56-foot non-overflow portion of the Trenton dam by more than 11 feet. Project structures at both developments are classified as significant hazard.

The project structures were inspected and found to be generally in good condition. Under PMF conditions, NMPC states that some damage would occur to the flood and trash sluice gates at Trenton, but that the structure has a factor of safety greater than 1.0. Staff calculations do not verify the NMPC factor of safety. Article 29, therefore, requires the Licensee to complete an investigation program and submit a report on the structural stability and integrity of the Trenton concrete structures and rock foundations.

It is concluded that the project, under the conditions of this license, will be safe and adequate.

Fish and Wildlife Resources

No federally-listed threatened or endangered species have been identified in any area that would be affected by the redevelopment or continued operation of the project. However, the U.S. Department of the Interior (Interior) and the New York Department of Environmental Conservation (DEC) commented with respect to the effects of flows on the fishery resources downstream of the project, which includes a DEC maintained "special regulations" trout fishery just downstream of the Trenton tailrace.

NMPC has provided a minimum flow of 160 cfs, or the inflow from Hinckley Reservoir if less, at the Trenton tailrace. However, during the navigation season, the New York Department of Transportation (DOT) has diverted water to the barge canal system at facilities located downstream, resulting in adverse impacts on the fishery. During consultations in preparation of the application, DEC indicated that some modification of instream flows might be required to improve the aquatic environment of West Canada Creek. It was concluded that studies were required to determine the impacts of flows on the downstream fishery. Based on a contracted study (Habitat-Flow Assessment of the West Canada Creek), NMPC concluded that the West Canada Creek fishery was established in light of current project operations, and that minimum flow releases from the project dams, or a minimum flow release in excess of 160 cfs from the project would not result in a significant improvement in the existing fishery.

A license was recently issued to the Power Authority of the State of New York (PASNY) for the Hinckley Project, FERC No. 3211. ^{2/} The project would be constructed at the existing dam which regulates West Canada Creek flows upstream of Project No. 2701. Article 20 of the Hinckley license requires PASNY to cooperate with NMPC, DOT, and DEC in providing flows to maintain a continuous minimum flow of 160 cfs in West Canada Creek, measured downstream of the DOT diversion. The license for the Hinckley Project, as conditioned, adequately addresses the primary concerns expressed by Interior and DEC on the NMPC application.

^{2/} Power Authority of the State of New York, Project No. 3211,
20 FERC ¶62,264 (August 12, 1982).

It is concluded that a minimum flow of 160 cfs, measured below the DOT diversion structure, would benefit downstream aquatic resources, and that there is no current additional need for minimum flow releases from the project dams. Accordingly, Article 33 is included to require NMPC to operate the project to maintain a minimum flow of 160 cfs, measured immediately downstream of the DOT diversion, or the inflow to the project, whichever is less. Should Interior or DEC have any further recommendations with respect to project impacts on downstream aquatic resources, Article 15 would allow for future changes.

The Exhibit E Report on Fish, Wildlife and Botanical Resources proposed to release a continuous minimum flow of 160 cfs from the Trenton Development. However, for the reasons explained above, this proposal has been superseded. Therefore, the report will not be approved.

Recreation

There is no development of the recreational potential at the project at present. The Prospect Development provides fishing, limited boating, and other day-use activities by informal access over project and private lands. The project lands between the Prospect dam and the Trenton tailrace provide opportunities for hiking, scenic viewing, especially in the Trenton Falls area, nature study, and swimming. Such use is discouraged by NMPC due to safety management considerations.

West Canada Creek downstream of the project provides a river fishery that is the third most heavily used in the State. The stream is also a popular canoeing reach when flows are available. Upstream of the project, Hinckley Reservoir provides developed public access for fishing, boating, and other day-use activities, in addition to private cottage developments.

NMPC's Systemwide Recreation Plan, approved in 1975, indicated that day use facilities could be developed at both the Prospect and Trenton Developments. ^{3/} However, NMPC is presently proposing that recreational development, consisting of a day-use picnic area and boat launching facilities take place only at the Prospect Development. The comments on the application generally concur with NMPC's recommendations.

^{3/} See Niagara Mohawk Power Corporation, Docket No. E-7470, 53 FPC 1972 (issued June 9, 1975).

The aforementioned license for the Hinckley Project includes Article 21 requiring PASNY to consult with NMPC in development of a revised recreational plan for the Hinckley Project which would include cooperation in developing the recreational resources at the Prospect reservoir.

For these reasons, the Report on Recreational Resources for the West Canada Creek Project will be approved. Article 34 is included to require NMPC to file for approval any amendment found necessary after consultation with PASNY. Under Article 17 of this license, the Commission reserves the right to require additional recreational development in the future.

Water Quality

Flows in West Canada Creek are controlled by releases from Hinckley Reservoir, located 2.4 miles upstream of the Prospect Development. Hinckley is operated by the State primarily to provide water for the New York State Barge Canal System and for downstream flood protection. In addition, Hinckley Reservoir serves as a water supply and regulates flows for hydroelectric generation.

There are no significant discharges of municipal or industrial wastes, and no major pollution loading of West Canada Creek, at or upstream of the project. The State has designated the water upstream of Trenton Dam as suitable for primary contact recreation and any other use except as a direct source of water for human consumption. West Canada Creek downstream of the Trenton Development is designated as suitable for fishing and other uses except primary contact recreation and human consumption without treatment.

NMPC applied to the DEC for water quality certification on July 5, 1972, and on June 9, 1980. In response to DEC's correspondence of July 22, 1980, and October 27, 1980, concerning the need for studies prior to certification, NMPC prepared the report entitled "Habitat-Flow Assessment of the West Canada Creek." The report was submitted to interested parties on June 18, 1981. To date no comments on the study have been received, and the water quality certification has not been issued.

The Federal Water Pollution Control Act Amendments (FWPCAA) of 1972 state in relevant part: "If the State, interstate agency, or Administrator, as the case may be, fails or refuses to act on a request for certification, within a reasonable period of time (which shall not exceed one year) after receipt of such a request, the certification requirements of this subsection shall be waived with respect to such Federal application. No license or permit

shall be granted until the certification required by this section has been obtained or has been waived as provided in the preceding sentence." 4/

On the basis of a lack of action for over a year by the State of New York upon NMPC's request for a water quality certificate pursuant to Section 401 of the FWPCA, supra, it is concluded that the certification requirements of that section have been waived.

Cultural Resources

The original power station at Trenton Falls was constructed in 1901 and is still operating. At the time of its construction, the facility was the highest head plant in the United States to use turbines rather than impulse or Pelton water wheels. It was also the first to use high head turbines designed and constructed in America. In 1918, a second powerhouse was constructed as an integral extension of the original. The Trenton Falls Development is eligible for inclusion in the National Register of Historic Places.

NMPC proposed a program to document and record the historical and engineering features of the powerplant complex that would be affected by construction at the Trenton Falls Development. NMPC agreed to cooperate with interested preservation agencies to develop and implement such a program, and to consider donating the retired hydroelectric equipment to appropriate museums and institutes.

NMPC also considered other "prudent and feasible" alternatives to the removal of the historic structures, to include a number of partial and complete preservation alternatives. In its consultation with the Advisory Council on Historic Preservation (ACHP), staff noted that any alternative would result in some degree of adverse effect on significant historic resources, but that partial preservation of Powerhouse No. 1 appeared to be the preferred method for protecting the National Register qualities of the Trenton Falls complex. Adaptive reuse of the facilities would allow for the integration of historic resources into a working facility, thus assuring their continued maintenance and usefulness. Potential problems associated with safety and security also would be eliminated, because facilities would not be abandoned and public visitation of the complex would remain almost unchanged. There would still be a physical loss of some historic resources

4/ 33 U.S.C. §1341(a)(1).

with any partial preservation alternative, but this loss could be mitigated in part by documentation of resources before any changes made necessary by incorporation of the historic powerhouse into a remodeled facility.

After participating in an on-site inspection of the Trenton Falls facilities, and after reviewing additional economic data on the various alternatives considered by NMPC, the ACHP recommended that any license issued for the project include 3 protective conditions: (1) before any alteration or demolition at Trenton Falls, the complex should be recorded to the standards of the Historic American Engineering Record; (2) within 6 months after issuance of a license, and prior to any demolition or alteration of the complex, NMPC conduct a feasibility study for potential reuse of Powerhouse No. 1 as part of a redesigned project, including a structural and engineering analysis of existing conditions, and of how the integration of new generating units into the powerhouse would take place. The results of this study would then be submitted to the SHPO, the ACHP, and the Commission for a 30 day review and comment period. At that time, if the SHPO, the ACHP, and the Commission agree that rehabilitation is a prudent alternative, NMPC would work with the SHPO to carry out the necessary rehabilitation work. If, on the other hand, the SHPO, the ACHP, and the Commission agree that rehabilitation is not a prudent alternative, then the demolition of the powerhouse could proceed after recordation had taken place; (3) if the Commission disagreed with the results of this three-way consultation, then the Commission would seek the comments of the ACHP. These proposed conditions reflect uncertainty about the structural stability of the powerhouse and its ultimate suitability for reuse in a functioning hydroelectric facility.

The ACHP's recommendations would protect significant historic resources, while allowing NMPC additional time to determine the possibilities or constraints associated with the preservation of Powerhouse No. 1. A study of the structural characteristics of the powerhouse is appropriate, and should be conducted. This study would be conducted in accordance with a plan of work acceptable to the SHPO and encompassing both engineering and preservation factors. If preservation of the powerhouse is feasible, then NMPC would seek to amend its license to make provisions for the retention and use of the powerhouse in accordance with plans that are satisfactory to the SHPO. Should preservation not be feasible, then the recording of existing engineering and historical features would mitigate for the loss of physical resources at the Trenton Falls site. License Article 35 provides for the foregoing.

In accordance with standard Commission practice, Article 35 of this license also requires cultural resources protection measures in the event of any future construction or development at the project, other than the original project development considered and authorized here.

Environmental Impacts

Approval of the application would result in an adverse impact on historic resources eligible for inclusion on the National Register of Historic Places. The included license conditions would, however, provide the necessary mitigation. The redevelopment and construction work at the project would result in increased erosion and sedimentation. However, such disturbance should be short-term and limited to the construction period. The release of minimum flows from the project, as conditioned, should enhance the downstream fishery in West Canada Creek. For the above reasons, it is concluded that approval of the application will not constitute a major Federal action significantly affecting the quality of the human environment.

Other Aspects of Comprehensive Development

The project is considered economically feasible based on a comparison with the cost of an equivalent amount of energy generated by a coal-fired thermal plant. 5/ The project will make good use of the flow and fall of West Canada Creek and is not in conflict with any planned or potential development. It is concluded that, as conditioned in this license, Project No. 2701 is best adapted to a comprehensive plan for development of the West Canada Creek basin for beneficial public uses.

License Term

In accordance with the order issuing a license for the Medway Project, 6/ the normal Commission policy would be to issue this license for a period ending twenty years from issuance. However, the Director, Office of Electric Power Regulation, in a letter by direction of the Commission dated May 16, 1980, advised NMPC,

5/ The proposed project, with its average annual generation of 211.735 million kWh, will utilize a renewable resource that will save the equivalent of approximately 347,669 barrels of oil or 98,033 tons of coal per year.

6/ See Bangor Hydro-Electric Co., Project No. 2666, 6 FERC ¶61287 (1979).

in an effort to enlist its cooperation in the licensing of this project, that any license issued for this project would be for a term of 30 years from the date of issuance, instead of the normal license period. In its May 16, 1980, letter, the Commission assumed that NMPC would submit its application to license the existing project. NMPC has, however, included new capacity in its filing. Therefore, this license will be for a term of 40 years from the first day of the month in which it is issued. 7/

For projects having no valid (pre-1920) Federal permit and located on a navigable stream, past Commission policy under the Androscoggin rule 8/ has been to issue a license effective as of April 1, 1962, or the date when a Commission finding of navigability has been made, whichever is earlier. Because of the 50-year maximum statutory license period, however, this license will be made effective March 1, 1973.

Annual Charges

In accordance with the order issuing a license for the Shoshone Falls Project, 9/ annual charges will be based upon the effective date, but this license will also be conditioned upon payment of an amount equivalent to the annual charges that would otherwise have been due for the period from April 1, 1962, to February 28, 1973. This payment is not a penalty, but is intended to place the Applicant as nearly as possible in the same position it would have been in before our change in termination date policy, and the same position as similarly situated Licensees who received their license before that change in policy.

The Director's letter of May 16, 1980, advised the Applicant that the Licensee would be relieved of approximately one half of the back annual charges that ordinarily would be due for the project. Accordingly, Article 36 provides for an adjustment in back annual charges.

It is ordered that:

(A) This license is issued to Niagara Mohawk Power Corporation (Licensee), of Syracuse, New York, under Part I of the Federal Power Act (Act), for a period effective March 1, 1973, and terminating February 28, 2023, for the re-construction, operation,

7/ See Montana Power Co., Mystic Lake Project No. 2301, issued October 5, 1976.

8/ See Public Service Company of New Hampshire, Project No. 2288, 27 FPC 830 (1962).

9/ See Idaho Power Co., Project No. 2778, issued June 13, 1979.

and maintenance of the West Canada Creek Project No. 2701, located in Herkimer and Oneida Counties, New York, on West Canada Creek, a navigable water of the United States, and affecting the interests of interstate or foreign commerce. This license is subject to the terms and conditions of the Act, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the Act.

(B) The West Canada Creek Project No. 2701 consists of:

(1) All lands, to the extent of the Licensee's interests in those lands, constituting the project area and enclosed by the project boundary. The project area and boundary are shown and described by certain exhibits that form part of the application for license and that are designated and described as:

<u>Exhibit</u>	<u>FERC No. 2701-</u>	<u>Showing</u>
G Sheet 1	22	General Location Map
G Sheet 2	23	Prospect Detail Map
G Sheet 3	24	Prospect Detail Map
G Sheet 4	25	Prospect Detail Map
G Sheet 5	26	Trenton Detail Map

(2) Project works consisting of:

A. The Prospect Development at river-mile 33 comprising:

(1) a 306-foot-long and 52-foot-high concrete overflow dam with earthfill dikes at both ends and having a spillway crest elevation at 1,146.5 U.S.G.S., and surmounted by three 15 x 27-foot Taintor gates and seven 27-foot wide bays of stoplogs; (2) a reservoir having a surface area of 176 acres and a storage capacity of 3,250 acre-feet at normal pool elevation 1,161.5 U.S.G.S.; (3) a canal, approximately 4,500 feet long, extending from the South Dike to a concrete intake structure; (4) a 13.5-foot diameter steel penstock, 430 feet long, extending from the intake to the powerhouse; (5) a reinforced-concrete powerhouse containing a generating unit rated at 17,325-kW operated at a 135-foot head and a hydraulic capacity of 1,525 cfs; (6) the 6.9-kV generator leads, the 15-kV switchgear, the 13.2/46-kV transformer, the 46-kV switchgear connecting to the Trenton-Prospect (No. 23) 46-kV feeder, and the associated station services transformer banks and low-voltage switchgear; (7) two-42 inch pipes in the dam to serve as intakes for future water supply for the City of Utica; and (8) appurtenant facilities.

B. The Trenton Development at river-mile 31 comprising: (1) a 288-foot-long and 60-foot-high concrete and masonry dam having an overflow section with crest elevation 1,017.9 U.S.G.S. approximately 100 feet long surmounted by 6-foot hinged flashboards and a 10 x 15 foot sluice gate; (2) a concrete spillway about 160 feet long with crest elevation 1,016.2 U.S.G.S. surmounted by 7 1/2 foot flashboards discharging into a spillway channel excavated into rock around the east abutment of the dam; (3) a reservoir having a surface area of 9 acres and a gross storage capacity of 264 acre-feet at normal pool elevation 1,023.9 U.S.G.S.; (4) six 5-foot diameter sluice pipes through the dam and two concrete-sealed 5-foot diameter pipes; (5) a reinforced-concrete intake structure having a lift gate and trashracks along the west bank of the reservoir; (6) a 14-foot diameter conduit comprising: (a) a 1,275-foot-long concrete-lined tunnel section; (b) a 40-foot-long steel-lined tunnel section; and (c) a 2,075-foot-long steel pipe section; (7) a bifurcation; (8) a steel penstock comprising: (a) a short 12-foot-diameter section connecting to a surge tank and leading to a 125-foot-long 12-foot-diameter section connecting to a manifold; and (b) three 138-foot-long 7-foot-diameter sections serving generating units 5, 6, and 7; (9) a 263-foot-long 7-foot-diameter steel penstock serving generating unit 8; (10) a steel and concrete powerhouse containing generating unit 8 (10,000-kW) and a powerhouse (No. 2) containing generating units 5 (7,400-kW), 6 (6,400-kW), and 7 (6,400-kW) - for a total rated capacity of 30,200-kW operated at a 255-foot head and a flow of 1,525 cfs; (11) the 13.2-kV generator leads, the 15-kV switchgear, the 13.2/46-kV transformers, the 46-kV switchgear connecting to the main 46-kV bus, and the associated stations services transformer banks and low voltage switchgear; and (8) appurtenant facilities.

The location, nature, and character of these project works are generally shown and described by the exhibits cited above and more specifically shown and described by certain other exhibits and reports that also form a part of the application for license and that are designated and described as:

<u>Exhibit</u>	<u>FERC No. 2701-</u>	<u>Showing</u>
F Sheet 1	16	Prospect Development: Spillway plan, elevation, and sections
F Sheet 2	17	Prospect Development: Intake and penstock plan, profile and sections

<u>Exhibit</u>	<u>FERC No. 2701-</u>	<u>Showing</u>
F Sheet 3	18	Prospect Development: Powerhouse plans and sections
F Sheet 4	19	Trenton Development: Spillway plan, elevations and sections
F Sheet 5	20	Trenton Development: Intake, pipeline and surge tank, profile, section and elevations
F Sheet 6	21	Trenton Development: Powerhouse; plans and sections

Exhibit A - Five typewritten pages of text and three diagrams filed on July 2, 1980, comprising:

Section A.3 entitled "Turbines and Generators", Section A.4 entitled "Transmission Lines", and Section A.5 entitled "Appurtenant Equipment", including the Prospect Operating Diagram (NMPC Drawing E.S. 598 H.406), the Trenton Station Service Diagram, and the Trenton Operating Diagram (NMPC Drawing E.S. 627 H.407).

Exhibit E - Consisting of Section E.5, twelve typewritten pages of text filed on July 2, 1980, entitled "Report on Recreation Resources", and four drawings:

<u>Exhibit</u>	<u>FERC No. 2701-</u>	<u>Showing</u>
E Sheet 1	12	Prospect Environmental Plan
E Sheet 2	13	Prospect Environmental Plan
E Sheet 3	14	Prospect Environmental Plan
E Sheet 4	15	Trenton Environmental Plan

(3) All of the structures, fixtures, equipment, or facilities used or useful in the operation or maintenance of the project and located within the project boundary, all portable property that may be employed in connection with the project, located within or outside the project boundary, as approved by the Commission, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) Exhibits G and F, and the Exhibit A Sections and diagrams, and the Exhibit E Section and drawings, designated in ordering paragraph (B) above, are approved and made a part of the license.

(D) This license is also subject to the terms and conditions set forth in Form L-4 (revised October, 1975), entitled "Terms and Conditions of License for Unconstructed Major Project Affecting Navigable Waters of the United States," except insofar as Standard Article 20 relates to a plan for clearing the reservoir area, attached to and made a part of this license. The license is also subject to the following additional articles:

Article 29. The Licensee shall, within one year from the date of issuance of this license, prepare a plan and schedule for investigation of the structural stability and integrity of the existing Trenton concrete structures and rock foundations. The plan shall be submitted for approval to the Director, Office of Electric Power Regulation, with a copy furnished to the New York Regional Engineer. The investigation of the integrity of the existing concrete structures shall be performed in accordance with American Concrete Institute Report N. 207.3R-79, Practices for Evaluation of Concrete in Existing Massive Structures for Service Conditions. Foundation investigations shall be prepared in accordance with ASTM D2938-71a, ASTM D2664-67 and ASTM C496-71. Upon completion of the investigation program, the Licensee shall submit a report on evaluation of the integrity of the existing concrete structures and foundations, and shall file revised Exhibit F drawings for Trenton, prepared in accordance with the Commission's rules and regulations, showing the final design of all project works. Construction of rehabilitation of a project structure shall not begin until the corresponding revised Exhibit F drawing has been approved by the Commission. The revised Trenton Exhibit F drawings shall be accompanied by stability analyses for the final design or rehabilitation of major project structures based on results of the investigation program.

Article 30. The Licensee shall file with the Commission's Regional Engineer and the Director, Office of Electric Power Regulation, one copy each of the final contract drawings and specifications for pertinent features of the project such as water retention structures, powerhouse and water conveyance structures, 60 days prior to start of construction. The Director, Office of Electric Power Regulation, may require changes in the plans and specifications to ensure a safe and adequate project.

Article 31. The Licensee shall review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction and shall ensure that construction of cofferdams and deep excavations are consistent with the approved design. At least 30 days prior to start of construction of the

cofferdam the Licensee shall file with the Commission's Regional Engineer and Director, Office of Electric Power Regulation, one copy of the approved cofferdam construction drawings and specifications and a copy of the letter(s) of approval.

Article 32. The Licensee shall commence construction of the project within two years from the date of issuance of this license and shall thereafter in good faith and with due diligence prosecute such construction and shall complete construction of such project works within five years from the date of issuance of the license.

Article 33. The Licensee shall provide a continuous minimum flow of 160 cubic feet per second or the inflow to the project, whichever is less, as measured immediately downstream of the New York State Department of Transportation barge canal diversion weir, for the purpose of protecting and enhancing aquatic resources in West Canada Creek. These flows may be temporarily modified if required by operating emergencies beyond the control of the Licensee, and for short periods for fishery management purposes upon mutual agreement between the Licensee and the New York State Department of Environmental Conservation.

Article 34. The Licensee shall consult with the Power Authority of the State of New York, the New York State Office of Parks and Recreation, the New York State Department of Environmental Conservation, and the New York State Department of Transportation concerning recreational development at the Prospect Development. Within 1 year from the date of issuance of this license, Licensee shall file a report on the results of the consultations, and for approval, any necessary revisions of the Report on Recreational Resources for the project.

Article 35. The Licensee shall, within 6 months from the date of issuance of this license, and prior to the commencement of construction or the alteration of facilities at the project, cooperate with the New York State Historic Preservation Officer (SHPO) to: (1) record the Trenton Falls Hydroelectric Complex in accordance with the standards of the Historic American Engineering Record (HAER); and (2) conduct a feasibility study of the potential reuse of Powerhouse No. 1 as part of a redesigned project. Licensee shall, in carrying out the recording of historically significant structures at the project, contact HAER to determine the level of documentation required, and submit the completed documentation to HAER for its acceptance and to the Commission for its review. Licensee shall also notify the Advisory Council on Historic Preservation (ACHP) of the documentation's acceptance prior to any changes in project facilities. The Licensee's feasibility study, to be based on a plan of work acceptable to the SHPO, shall include a structural and engineering analysis of existing conditions at the powerhouse, and an examination of

partial preservation alternatives that might economically be used to integrate new generating units into the existing powerhouse facilities. The results of this study shall be submitted to the SHPO, the ACHP, and the Commission for a 30-day review and comment period. If, at the end of the 30-day period, the SHPO and ACHP agree that partial preservation of the powerhouse facilities is a prudent alternative, then the Licensee shall file an application to amend its license to change its approved development scheme, and shall cooperate with the SHPO to carry out the necessary rehabilitation work. If, however, following the comment period, the SHPO, the ACHP, and the Commission agree that partial preservation is not a feasible alternative, then the Licensee may proceed with its approved redevelopment of the project, provided that any facilities to be removed or altered have been recorded in compliance with the terms of this article.

If any previously unrecorded archeological sites are discovered during the course of construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted, a qualified archeologist shall be consulted to determine the significance of the sites, and the Licensee shall consult with the SHPO to develop a mitigation plan for the protection of significant archeological resources. If the Licensee and the SHPO cannot agree on the amount of money to be expended on archeological or historical work related to the project, the Commission reserves the right to require the Licensee to conduct, at its own expense, any such work found necessary.

Article 36. The Licensee shall pay the United States the following annual charges, as determined in accordance with the provisions of the Commission's regulations in effect from time to time, for the purpose of reimbursing the United States for the cost of administration of Part I of the Act:

- (1) For the period from April 1, 1962, through February 28, 1973, an amount equal to one half of the annual charges that would have applied for the period if the project had been licensed during that period. The authorized installed capacity for this purpose is 55,400 horsepower.
- (2) For the period from March 1, 1973, through February 28, 1983, one-half the annual charges ordinarily due in accordance with the Commission's regulations. The authorized installed capacity for this purpose is 55,400 horsepower.
- (3) From March 1, 1983, the full annual charge computed in accordance with the Commission's regulations. The authorized installed capacity for this purpose is 63,400 horsepower.

Article 37. Within one year from the date of commencement of operation of the re-constructed project, the Licensee shall file for approval "as-built" Exhibit drawings, as necessary, to show the project as finally constructed and located.

Article 38. Pursuant to Section 10(d) of the Act, after the first 20 years of operation of the project under license, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. One-half of the project surplus earnings, if any, accumulated after the first 20 years of operation under the license, in excess of the specified rate of return per annum on the net investment, shall be set aside in a project amortization reserve account at the end of each fiscal year. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year after the first 20 years of operation under the license, the amount of that deficiency shall be deducted from the amount of any surplus earnings subsequently accumulated, until absorbed. One-half of the remaining surplus earnings, if any, cumulatively computed, shall be set aside in the project amortization reserve account. The amounts established in the project amortization reserve account shall be maintained until further order of the Commission.

The annual specified reasonable rate of return shall be the sum of the annual weighted costs of long-term debt, preferred stock, and common equity, as defined below. The annual weighted cost for each component of the reasonable rate of return is the product of its capital ratio and cost rate. The annual capital ratio for each component of the rate of return shall be calculated based on an average of 13 monthly balances of amounts properly includable in the Licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rates for long-term debt and preferred stock shall be their respective weighted average costs for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10 year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 39. (a) In accordance with the provisions of this article, the Licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain other types of use and occupancy, without prior Commission approval. The Licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the Licensee shall also have continuing responsibility to supervise and control the uses and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has

conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the Licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the Licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, cancelling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The types of use and occupancy of project lands and waters for which the Licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time where said facility is intended to serve single-family type dwellings; and (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the Licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The Licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the uses and occupancies for which it grants permission are maintained in good repair and comply with applicable State and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the Licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the Licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the Licensee's costs of administering the permit program. The Commission reserves the right to require the Licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The Licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges and roads for which all necessary State and Federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and

electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the Licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The Licensee may convey fee titles to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary State and Federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary Federal and State water quality certificates or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary Federal and State approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 45 days before conveying any interest in project lands under this paragraph (d), the Licensee must file a letter to the Director, Office of Electric Power Regulation, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any Federal or State agency official consulted, and any Federal or State approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the Licensee to file an application for prior approval, the Licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraphs (c) or (d) of this article:

(1) Before conveying the interest, the Licensee shall consult with Federal and State fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the Licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.


(3) The instrument of conveyance must include covenants running with the land adequate to ensure that: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; and (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project.

(4) The Commission reserves the right to require the Licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.

(E) Within 90 days from the date of acceptance of this license, the Licensee shall file a statement under oath showing the gross amount of power generation for the project in kilowatt-hours for each calendar year commencing April 1, 1962, in accordance with the provisions of Section 11.20(a)(4) of the Commission's regulations.

(F) The Licensee's failure to file a petition appealing this order to the Commission shall constitute acceptance of this license. In acknowledgment of acceptance of this order and its term and conditions, it shall be signed by the Licensee and returned to the Commission within 60 days from the date this order is issued.


Lawrence R. Anderson
Director, Office of Electric
Power Regulation

Project No. 2701-001

IN TESTIMONY of its acknowledgment of acceptance of all of the terms and conditions of this Order, Niagara Mohawk Power Corporation this ____ day of _____, 19____, has caused its corporate name to be signed hereto by _____, its _____ President, and its corporate seal to be affixed hereto and attested by _____ its _____ Secretary, pursuant to a resolution of its Board of Directors duly adopted on the ____ day of _____ 19____, a certified copy of the record of which is attached hereto.

By _____
President

Attest:

Secretary

(Executed in quadruplicate)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR
UNCONSTRUCTED MAJOR PROJECT AFFECTING
NAVIGABLE WATERS OF THE UNITED STATES

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project works shall be constructed in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Upon the completion of the project, or at such other time as the Commission may direct, the Licensee shall submit the Commission for approval revised exhibits insofar as necessary to show any divergence from or variations in the project area and project boundary as finally located or in the project works as actually constructed when compared with the area and boundary shown and the works described in the license or in the exhibits approved by the Commission, together with a statement in writing setting forth the reasons which in the opinion of the Licensee necessitated or justified variation in or divergence from the approved exhibits. Such revised exhibits shall, if and when approved by the Commission, be made a part of the license under the provisions of Article 2 hereof.

Article 4. The construction, operation, and maintenance of the project and any work incidental to additions or alterations shall be subject to the inspection and supervision of the Regional Engineer, Federal Power Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of the project and for any subsequent alterations to the project. Construction of the project works or any feature or alteration thereof shall not be initiated until the program of inspection for the project works or any such feature thereof has been approved by said representative. The Licensee shall also furnish to said representative such further information as he may require concerning the construction, operation, and maintenance of the project, and of any alteration thereof, and shall notify him of the date upon which work will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights of occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a non-power licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

Article 8. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 9. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 10. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 11. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

Article 12. The United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 14. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.

Article 15. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

Article 18. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 19. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 20. The Licensee shall consult with the appropriate State and Federal agencies and, within one year of the date of issuance of this license, shall submit for Commission approval a plan for clearing the reservoir area. Further, the Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. Upon approval of the clearing plan all clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 21. Material may be dredged or excavated from, or placed as fill in, project lands and/or waters only in the prosecution of work specifically authorized under the license; in the maintenance of the project; or after obtaining Commission approval, as appropriate. Any such material shall be removed and/or deposited in such manner

as to reasonably preserve the environmental values of the project and so as not to interfere with traffic on land or water. Dredging and filling in a navigable water of the United States shall also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.

Article 22. Whenever the United States shall desire to construct, complete, or improve navigation facilities in connection with the project, the Licensee shall convey to the United States, free of cost, such of its lands and rights-of-way and such rights of passage through its dams or other structures, and shall permit such control of its pools, as may be required to complete and maintain such navigation facilities.

Article 23. The operation of any navigation facilities which may be constructed as a part of, or in connection with, any dam or diversion structure constituting a part of the project works shall at all times be controlled by such reasonable rules and regulations in the interest of navigation, including control of the level of the pool caused by such dam or diversion structure; as may be made from time to time by the Secretary of the Army.

Article 24. The Licensee shall furnish power free of cost to the United States for the operation and maintenance of navigation facilities in the vicinity of the project at the voltage and frequency required by such facilities and at a point adjacent thereto, whether said facilities are constructed by the Licensee or by the United States.

Article 25. The Licensee shall construct, maintain, and operate at its own expense such lights and other signals for the protection of navigation as may be directed by the Secretary of the Department in which the Coast Guard is operating.

Article 26. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee

or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 27. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 28. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

1989 License Amendment

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Niagara Mohawk Power Corporation

Project No. 2701-009
New York

ORDER AMENDING LICENSE,
APPROVING AS-BUILT EXHIBITS AND REVISING ANNUAL CHARGES

On April 28, 1989, Niagara Mohawk Power Corporation filed as-built revised exhibits which reflect the revisions made to the West Canada Creek Project, FERC No. 2701, in compliance with articles 35 and 37 of the license.

The license authorized the removal of Powerhouse No. 1 of the Trenton Development, subject to the requirements of article 35, and the construction of a new steel and concrete powerhouse containing a single 10,000-kW generator, Unit No. 8. The new development would replace Powerhouse No. 1. The existing Powerhouse No. 1, constructed in 1901, contains four generators, Units 1 through 4, each rated at 1,000-kW. The license also authorizes the use of Powerhouse No. 2 which contains Units 5 through 7.

Pursuant to the requirements of article 35, the installation of Unit No. 8 is contingent upon comments from the New York State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation (ACHP), and a feasibility study addressing the potential reuse of the existing Powerhouse No. 1. The feasibility study, filed on April 1, 1987, considered several alternatives, including the installation of Unit No. 8, and found no alternative to be economically feasible. Therefore, Powerhouse No. 1 will not be replaced by the new powerhouse containing Unit No. 8.

The revised exhibit drawings show Powerhouse No. 2, which contains Units 5 through 7, as operational. Units 1 through 4 in Powerhouse No. 1 are retired in-place. The new powerhouse which would contain Unit No. 8 will not be constructed, therefore, reference of the construction and operation of Unit No. 8 will be removed from the license.

The Director orders:

(A) The license for the West Canada Creek Project, FERC No. 2701, is amended as provided in this order, effective the first day of the month in which this order is issued.

1989 License Amendment

-2-

(B) The following exhibit F drawings are approved and made a part of the license:

Exhibit	FERC No.	Title	Superseding
F (Sheet No. 4B)	2701-27	Trenton Development - Dam and Spillway Plan, Elevations & Sections	2701-19
F (Sheet No. 5A)	2701-28	Trenton Development - Intake, Pipelines and Surge Tank Profiles, Section and Elevations	2701-20
F (Sheet No. 6A)	2701-29	Trenton Development Powerhouse Plans and Sections	2701-21
G (Sheet No. 5A)	2701-30	Trenton Development Detail Map	2701-26

(C) The superseded exhibit F drawings are eliminated from the license.

(D) The project description found in ordering paragraph (B)(2)(B)(9) and (10) should be revised to read as follows:

... (9) a 263-foot-long, 7-foot-diameter steel penstock to Units 1 through 4; (10) Units 1 through 4 in powerhouse No. 1 are retired in-place and powerhouse (No. 2) containing generating Units 5 (7,400-kW), 6 (7,650-kW), and 7 (7,400-kW) - for a total nameplate rating of 22,450-kW operated at a 255-foot head and a maximum flow of 1450 cfs; (11)...

(E) Article 36 is amended to read as follows:

Article 36. Licensee shall pay the United States the following annual charge, effective the first day of the month in which this amendment of license is issued:

For the purpose of reimbursing the United States for the cost of administration of Part I of the Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 53,000 horsepower.

±

1989 License Amendment

-3-

(F) Within 90 days of the date of issuance of this order, the licensee shall file an original of the approved exhibit F and G drawings reproduced on silver or gelatin 35mm microfilm mounted on Type D (3 1/4" x 7 3/8") aperture cards for each drawing. In addition, the licensee shall file two Dazo-type duplicate aperture cards. The original set and one duplicate set of aperture cards should be filed with the Secretary of the Commission. The remaining duplicate set of aperture cards should be filed with the Commission's New York Regional Office. The FERC drawing numbers (2701-27 through 2701-30) shall be shown in the margin below the title block of the microfilmed drawings and also in the upper right corner of each aperture card. The top line(s) of the aperture card shall show the FERC exhibit (i.e., F-1, G-1, L-1), Project Number, Drawing Title, and date of this order.

(G) This order is issued under authority delegated to the Director and is final unless appealed to the Commission under Rule 1902 within 30 days from the date of this order. Failure to file a petition appealing this order to the Commission shall constitute acceptance of this order.

J. Mark Robinson
Director, Division of Project
Compliance and Administration

OHL/DPCA
Fearon, K.:jej
05/09/89

K04

♀

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Niagara Mohawk Power Corporation and Erie Boulevard Hydropower, L.P.	)	Projects Nos. 13-009, 2047-005
	)	2060-006, 2084-021, 2318-005,
	)	2320-014, 2330-035, 2474-007,
	)	2482-023, 2539-009, 2554-005
	)	2569-038, 2616-011, 2641-003,
	)	2645-077, 2696-009, 2701-029
	)	2713-041, 2837-007, 3452-007
	)	5984-027, 7320-011, 7321-008,
	)	7387-007, 7518-002, 9222-017
	)	10461-004, 10462-004, 11408-021,
	)	2538-029
 Niagara Mohawk Power Corporation and Beebee Island Corporation	)	Project No. 2538-028
 Moreau Manufacturing Corporation Niagara Mohawk Power Corporation	) )	Project No. 2554-006

ORDER APPROVING TRANSFERS OF LICENSES, PARTIAL TRANSFER OF
LICENSE, AND SUBSTITUTION OF APPLICANTS

(Issued July 26, 1999)

On February 8, 1999, Niagara Mohawk Power Corporation (NIMO) and Erie Boulevard Hydropower, L.P. (Erie) (collectively, applicants) filed a joint application for approval of transfers of licenses and exemptions,¹ partial transfer of a license, and substitution of applicant and waiver of application amendment regulations in pending licensing and relicensing proceedings. This application was filed pursuant to the license

¹ In a letter dated May 17, 1999, the Commission staff notified NIMO that since transfers of exemptions do not require Commission approval, the requests for approval of the transfer of the exemptions for Project Nos. 2424, 4402, 5217, and 8606 in the February application will not be further considered.

FERC-DOCKETED

JUL 26 1999

9901270048-3

transfer provisions of Section 8 of the Federal Power Act (FPA) ² and related Commission regulations at 18 C.F.R. Part 9 (1999). ³

Commission staff, in a letter dated March 30, 1999, cited two deficiencies in the February application and requested the applicants amend the application. One deficiency stated that the co-licensees for the Mechanicville Project No. 6032 and the Saranac Project No. 4472 must be made co-applicants in the transfer request. In addition, the Commission staff stated that the applicants must serve the applications on persons appearing on the service list in pending licensing and relicensing proceedings in accordance with the requirements of 18 C.F.R. Part 385 Subpart T-Formal Requirements for Filings in Proceedings Before the Commission. In response to staff's March 30, 1999 letter, on April 14, 1999, the applicants filed an amended application to delete the Mechanicville and Saranac projects from the joint application. In addition, the applicants filed separate applications for all licenses that are currently undergoing licensing and relicensing. All of the projects are located in the State of New York.

Pursuant to their amended applications, NIMO and Erie are requesting transfer of licenses for the following projects:

- Green Island Project No. 13, located on the Hudson River in Albany County;
- Black River Project No. 2569, located on the Black River in Jefferson County;
- Feeder Dam Transmission Line Project No. 2641, located in Saratoga County;
- Beaver River Project No. 2645, located on the Beaver River in Lewis and Herkimer Counties;
- West Canada Creek Project No. 2701, located on West Canada Creek in Oneida and Herkimer Counties;
- Oswegatchie River Project No. 2713, located on the Oswegatchie River in St. Lawrence County;
- Granby Project No. 2837, located on the Oswego River in Oswego County;

² 16 U.S.C. § 801.

³ NIMO and Erie have filed a separate Joint Application Seeking Authorization For the Sale of Facilities Under Section 203 of the Federal Power Act in connection with the sale of the projects and related filings under Section 205 of the FPA. That application was filed under docket nos. ER99-1764-000 and EC99-34-000 on February 8, 1999. The application was approved by a Commission order issued on June 17, 1999. See 87 FERC ¶ 61,302 (1999).

- Oak Orchard Project No. 3452, located on the New York State Barge Canal in Orleans County;
- Oswego Falls Project No. 5984, located on the Oswego River in Oswego and Onondaga Counties;
- Chasm Project No. 7320, located on the Salmon River in Franklin County;
- Macomb Project No. 7321, located on the Salmon River in Franklin County;
- Piercefield Project No. 7387, located on the Raquette River in St. Lawrence and Franklin Counties;
- Hogansburg Project No. 7518, located on the St. Regis River in Franklin County;
- Yaleville Project No. 9222, located on the Raquette River in St. Lawrence County; and
- Salmon River Project No. 11408, located on the Salmon River in Oswego County.⁴

For the following projects, NIMO and Erie request Commission approval of the transfer of licenses to Erie, substitution of Erie as the applicant in related pending relicensing proceedings, and waiver of the material amendment requirements for relicensing applications under 18 C.F.R. § 16.9:⁵

⁴ Licenses for the 15 listed projects were issued, respectively, in: 57 FPC 817 (1977), 77 FERC ¶ 61,306 (1996), 60 FERC ¶ 62,251 (1992), 76 FERC ¶ 61,152 (1996), 22 FERC ¶ 62,347 (1983), 22 FERC ¶ 62,020 (1983), 11 FERC ¶ 62,011 (1980), 16 FERC ¶ 62,044 (1981), 74 FERC ¶ 62,138 (1996), 32 FERC ¶ 62,239 (1985), 37 FERC ¶ 62,270 (1986), 33 FERC ¶ 62,258 (1985), 33 FERC ¶ 62,110 (1985), 58 FERC ¶ 62,114 (1992), and 74 FERC ¶ 62,087 (1996). Approval is also sought for transfer of the license for the Stuyvesant Falls Project No. 2696, located on the Kinderhook Creek in Columbia County. However, the Commission issued an order accepting the surrender of this project on May 29, 1998, pending additional filings from the licensee (83 FERC ¶ 61,226). The licensee filed the documentation and the surrender of the project was finalized on February 17, 1999 (86 FERC ¶ 62,135), appeal filed. The Town of Stuyvesant, New York v. FERC, Cause No. 99-1063 (D.C. Cir., filed February 18, 1999). Since there is no longer a license to transfer now, the application as to Project No. 2696 is denied, without prejudice to renewing the request as to Project No. 2696 if the appellate court reverses and remands the Commission's decision to accept surrender.

⁵ Relicensing applications have been filed with the Commission for the following projects: Project Nos. 2047 (filed June 19, 1998), 2060 (filed January 28, 1999), 2084 (filed January 28, 1999), 2318 (filed December 11, 1991), 2320 (filed December 23, 1991), 2330 (filed December 23, 1991), 2474 (filed December 4, 1991), 2482 (filed December 18, 1991), 2539 (filed December 20, 1991), 2554 (March 23, 1993), and 2616

(continued...)

- Stewarts Bridge Project No. 2047, located on the Sacandaga River in Saratoga County;
- Carry Falls Project No. 2060, located on the Raquette River in St. Lawrence County;
- Upper Raquette River Project No. 2084, located on the Raquette River in St. Lawrence County;
- E.J. West Project No. 2318, located on the Sacandaga River in Saratoga County;
- Middle Raquette Project No. 2320, located on the Raquette River in St. Lawrence County;
- Lower Raquette Project No. 2330, located on the Raquette River in St. Lawrence County;
- Oswego River Project No. 2474, located on the Oswego River in Oswego County;
- Hudson River Project No. 2482, located on the Hudson River in Warren, Saratoga, and Washington Counties;
- School Street Project No. 2539, located on the Mohawk River in Albany and; Saratoga Counties;
- Feeder Dam Project No. 2554, located on the Hudson River in Saratoga and Washington Counties, New York; and
- Hoosic River Project No. 2616, located on the Hoosic River in Rensselaer County .⁶

For the following projects, NIMO and Erie request substitution of Erie as the applicant, and waiver of the material amendment requirements, for licensing applications under 18 C.F.R. § 4.35 for the pending applications for original licenses:

- Parishville Project No. 10461, located on the St. Regis River in St. Lawrence County; and
- Allens Falls Project No. 10462, located on the St. Regis River in St. Lawrence County⁷

NIMO and Beebee Island Corporation, a NIMO subsidiary, are co-licensees for the Beebee Island Project No. 2538 (located on the Black River in Jefferson County), and

⁵(...continued)
(filed December 18, 1991).

⁶ Original licenses for the 11 listed projects were issued, respectively in: 9 FPC 896 (1950), 10 FPC 708 (1951), 11 FPC 774 (1952), 29 FPC 1290 (1963), 31 FPC 1549 (1964), 32 FPC 125 (1964), 39 FPC 872 (1968), 40 FPC 185 (1968), 41 FPC 772 (1969), 40 FPC 201 (1968), 41 FPC 77 (1969).

⁷ Initial license applications were filed on May 30, 1990, for Project No. 10461 and on December 14, 1990, for Project No. 10462.

Moreau Manufacturing Corporation (Moreau), another NIMO subsidiary, is the licensee for the Feeder Dam Project No. 2554. As a prerequisite to the requested transfer of the licenses for these projects from NIMO to Erie, on March 29, 1999, Moreau and NIMO filed an application for Commission approval to transfer the license and to substitute the applicant in the pending relicensing proceedings for the Feeder Dam Project from Moreau to NIMO, and on May 11, 1999, NIMO and Beebee Island Corporation filed an application for the transfer of license for the Beebee Island Project from Beebee Island Corporation and NIMO as co-licensees to NIMO as sole licensee.

I. BACKGROUND

NIMO is a public utility under the FPA engaged in the production, transmission, distribution and sale of electricity, and the purchase, distribution, sale and transportation of natural gas in New York. NIMO's electric generation assets currently include hydroelectric, nuclear, and fossil facilities with a total generating capacity of approximately 5,300 megawatts.

Erie is a limited partnership formed for the purpose of purchasing, owning, and operating the hydroelectric generating plants it is purchasing from NIMO. Erie's general partner is Orion Power New York GP, Inc. (Orion GP), and its sole limited partner is Orion Power New York LP, Inc. (Orion LP). Both Orion GP and Orion LP are wholly-owned subsidiaries of Orion Power Holdings, Inc. (Orion Holdings). The shareholders of Orion Holdings are GS Capital Partners II, L.P. and certain other Goldman Sachs funds, all of which are affiliated with the Goldman Sachs Group, L.P. and Constellation Power Source, Inc. (Constellation Power). Constellation Power is an indirect, wholly-owned subsidiary of Baltimore Gas & Electric Company, which became a wholly-owned subsidiary of Constellation Energy Group effective May 3, 1999.⁸

The requested approvals are sought in connection with the divestiture by NIMO of its non-nuclear generating facilities. The sale and transfer of these hydroelectric generating facilities helps to effectuate New York State's effort to restructure its electric utility industry and NIMO's comprehensive PowerChoice Settlement agreement with the state, which addresses electric rates, corporate structure and competitive market matters, and which was approved by the New York Public Service Commission on March 20, 1998. The PowerChoice Settlement was intended to stabilize NIMO's financial condition, enhance the development of a competitive electric generation market through

⁸ See the Commission's June 17, 1999 order issued under Section 203 of the FPA, supra, 87 FERC ¶ 61,302, slip op. at 2.

the auctioning of NIMO's fossil and hydro generation assets to third parties, and reduce prices and introduce customer choice and competition to all classes of NIMO customers.⁹

Pursuant to the terms of the PowerChoice Settlement, NIMO agreed to divest all of its fossil and hydroelectric generation assets through a broad-based auction, and the divestiture transaction here is the first transaction to result from that auction. NIMO and Erie have executed an Asset Sales Agreement in which Erie has agreed to purchase the hydroelectric projects for \$425 million.

On May 9, 1999, public notice of the transfer applications was issued. Timely motions were filed by the United States Department of the Interior (DOI) (motion to intervene in opposition); New York State Department of Environmental Conservation (NYSDEC) (petition to intervene); Natural Heritage Institute (NHI) (motion to intervene in partial opposition); Rensselaer County Conservation Alliance (Alliance) (motion to intervene in Project Nos. 13, 2539, and 2616); New York Rivers United (NYRU) (motion to intervene); Green Island Power Authority (GIPA) (motion to intervene in opposition in Project No. 13); Fourth Branch Associates-Mechanicville (motion to intervene in Project No. 6032); the St. Regis Mohawk Tribe (Tribe) (motion to intervene in opposition in Project No. 7518); Finch, Pruyn and Company, Incorporated (Finch, Pruyn) (motion to intervene in Project Nos. 2318 and 2554); and the City of Oswego, New York (motion to intervene). Great Sacandaga Lake Fisheries Federation, Inc. (Federation) filed a late motion to intervene in Project No. 2318.

The City of Lockport, New York (Lockport), filed a motion to intervene in Project No. 2424 and requested additional time to provide comments and a determination of whether the project's transmission line will remain jurisdictional. Fourth Branch Associates-Mechanicville (FBAM) filed a motion to intervene in Project No. 6032. As noted, the request for approval of the transfer of the exemption in Project No. 2424 is no longer being considered, and the application for transfer in Project No. 6032 has been withdrawn. Therefore, the motions of FBAM and the City of Lockport are beyond the scope of this proceeding and will not be further discussed.

A public notice was issued on May 26, 1999, for the Beebee Island Project Nos. 2538-028 and -029. On June 14, 1999, NYRU filed a timely motion to intervene. On July 13, 1999, NYSDEC filed a late motion to intervene.

⁹ Id., slip op. at pp. 2-3.

On April 19, 1999, public notice of the transfer for the Feeder Dam Project No. 2554-006 application was issued. Timely motions to intervene were filed by Finch, Pruyn and the City of Oswego.

The motions to intervene were timely (except for the late motions to intervene of the Federation in Project No. 2318-005 and NYSDEC in Project Nos. 2538-029 and -028) and unopposed (except for the motion of City of Oswego in Project No. 2554-006, which was opposed by Moreau and NIMO), and accordingly granted by operation of Rule 214(c) of the Commission's Rules of Practice and Procedure, 18 C.F.R. Section 385.214(c). By notices issued June 22, 1999, July 13, 1999, and July 16, 1999, the Commission's Secretary granted the motions to intervene of City of Oswego, the Federation, and NYSDEC, respectively.

II. DISCUSSION

THE ALLIANCE

The Alliance, in Project Nos. 13, 2539, and 2616, requested party status only.

CITY OF OSWEGO

Based on what it asserts is a failure to provide proper notice of the applications and NIMO's auctioning of newly issued licenses, the City of Oswego requests rescission of NIMO's licenses, dismissal of NIMO notices of intent to relicense, and commencement of competitive licensing proceedings. The requests for relief will be denied, as described below.

The City of Oswego protests what it contends is the Commission's misleading combined processing of two distinct actions: (1) transfer of the licenses for NIMO projects; and (2) substitution of applicants in the pending licensing and relicensing proceedings. It contends that the notice of the applications failed to mention the use of incumbent licensee tie-breaker preferences, or that the substitution of parties will entail amendments to existing applications beyond the deadlines for amending the pending applications.

However, there is nothing misleading about the processing of the application. As noted, applicants served copies of the transfer applications, which include their request to substitute applicants, on all persons on the service list in the licensing and relicensing proceedings. Moreover, the public notices of the transfers stated that they are part of the NIMO-to-Erie divestiture transaction and that the transfers would lead to the substitution

of transferee for the transferor as the applicant in the pending relicensing proceedings. Interested persons have been given notice and a fair opportunity to comment on both the proposed transfers and the requests for substitution of applicants in the licensing and relicensing proceedings.

The substitutions of applicants are properly considered in this proceeding as matters incidental to the transfer of licenses. The transfers of licenses for projects subject to pending relicensing proceedings makes the transferee the incumbent licensee entitled to the incumbent-licensee tie-breaker preference for relicensing under Section 15 of the FPA.¹⁰ More generally, the substitution of applicants in the pending original licensing proceedings as well as the pending relicensing proceedings is an integral part of the NIMO-Erie divestiture transaction.

The City of Oswego protests the requests to substitute applicants and to waive the material-amendment requirements of Section 4.35 of the Commission's regulations for the NIMO projects that are the subject of original licensing applications because substituting applicants provides the transferee with an unfair competitive advantage for the project sites. The City of Oswego contends that the competitive advantage is particularly unfair for Projects Nos. 10461 and 10462 in which NIMO is using the preference accorded holders of preliminary permits, and in Project No. 5984 where competing applications were involved. It requests dismissal of the applications and institution of competitive licensing proceedings for the project sites involved. For projects that are the subject of relicensing applications, the City of Oswego requests dismissal of notices of intent to file for relicensing in Project Nos. 2047, 2060, and 2084; and it requests that relicensing applications be dismissed in Project Nos. 2318, 2320, 2330, 2474, 2482, 2539, 2554, and 2616.

¹⁰ See Augusta Development Corporation and Edwards Manufacturing Company, 57 FERC ¶ 61,070, at pp. 61,260-61 (1991), where the Commission, in affirming staff's approval of a license transfer for a project subject to the relicensing process found that the transferee is entitled to the incumbent licensee tie-breaker preference under the relicensing provisions of Section 15(a)(2) of the Federal Power Act as the "current existing licensee of the project," based on the notice of intent to relicense filed by the transferor. The findings in the Augusta Development rebut the City of Oswego's contention in the Feeder Dam Project No. 2554-006 that, absent a merger of NIMO and Moreau with NIMO becoming the "surviving" entity, NIMO cannot legally acquire Moreau's rights under Moreau's notice of intent to relicense the Feeder Dam.

Under Section 4.35(f)(4) of the Commission's regulations (18 C.F.R. § 4.35(f)(4)), the Commission treats a substitution of all of the original applicants for a license as a material amendment to the application. The purpose of section 4.35 is to preclude applicants from gaining an unfair competitive advantage by making material amendments to their applications after they are filed with the Commission, or from wasting the Commission's limited resources by filing an application that is not fully developed. To that end, under Section 4.35(c), the Commission changes the filing date of the application to the filing date of the amendment and reissues public notice of the application.¹¹

In the original licensing proceeding in Project No. 5984, the Commission issued a license to NIMO on March 15, 1996, which is pending on appeal in the United States Court of Appeals for the District of Columbia Circuit. Since NIMO prosecuted the application in Project No. 5984 to its administrative finality, there is no harm to potential competitors or Commission policy in granting the request to substitute applicants for Project No. 5984.

In the pending original licensing proceedings in Projects Nos. 10461 and 10462, the possible adverse effects on competition of NIMO's use of the preference accorded holders of preliminary permits does not require denial of NIMO's waiver request, as Oswego argues. NIMO had owned and operated the unlicensed Project Nos. 10461 and 10462 for many years prior to filing its requests for preliminary permits for the projects on August 31, 1987. The preliminary permits were issued on June 14, 1988,¹² just days before the Commission issued orders finding that the existing projects were subject to mandatory licensing jurisdiction, on June 3, 1988.¹³ NIMO's license applications have been pending since May 31, 1990. Under the circumstances presented here, including the longstanding ownership of the projects by NIMO and the longstanding pendency of NIMO's licensing applications, granting the requested waiver for substituting Erie for NIMO for the applications in Project Nos. 10461 and 10462 will not thwart the purposes of Section 4.35, as described above.

Regarding the requests for substitution of applicants in pending relicensing proceedings, under Section 16.9(b)(3) of the Commission's relicensing regulations (18

¹¹ See Michigan Power Company and Indiana Power Company, 57 FERC ¶ 61,227 (1991).

¹² See 49 FERC ¶¶ 62,121 and 62,090.

¹³ 43 FERC ¶¶ 62,255-56.

C.F.R. § 16.9(b)(3)), Section 4.35 does not apply to a relicensing application, except that the Commission will reissue a public notice of the application in accordance with the provisions of Section 16.9(d)(1), if an amendment described in Section 4.35(f) is filed.

As noted, the public notices of the transfer applications stated that the transfers would lead to the substitution of the transferees for the transferor as the applicant in the pending relicensing proceedings. These notices were published in the Federal Register and in the local newspaper once, and was served on federal and state resource agencies and Indian tribes, substantially as required by Section 16.9(d)(1).¹⁴ Adherence to any remaining notice requirements of Section 16.9(d)(1) would serve no useful public purpose.

The City of Oswego contends that the substitution of applicants in the relicensing proceedings undercuts the validity of the pending applications because NIMO is a public utility, not "just a private entity," as Erie is.¹⁵ The City of Oswego contends that the change in applicants requires the filing of supplementary information concerning the decisional factors pertaining to an applicant for relicensing, required under FPA Section 15.

Erie is not proposing to change project operations, and it states that it intends to offer employment to all of NIMO's workforce related to the operations of the projects, including approximately 46 management and 139 union personnel and non-union personnel employed at the time of the closing of the proposed transaction,¹⁶ which pertains to the requirements of Section 15 regarding plans and capabilities the City of Oswego refers to.¹⁷ That additional information may be needed is not a bar to granting

¹⁴ Section 16.9(d)(1)(ii) and (iii) requires publishing the notice once a week for four weeks and notifying appropriate federal, state, and interstate resource agencies and Indian tribes by mail of material amendments to relicensing applications.

¹⁵ The City of Oswego's June 9, 1999 filing at p. 13.

¹⁶ See p. 6 of the amended application, filed April 14, 1999.

¹⁷ See also the Commission's June 17, 1999 order at 87 FERC ¶ 61,302, supra, slip op. at 4, regarding: (1) Erie's requests under FPA Section 205 for: (A) authorization to sell power and energy at market-based rates; (B) acceptance of a Transition Power Purchase Agreement between NIMO and Erie; (C) acceptance of an emergency power supply agreement between NIMO and Erie; and (2) NIMO and Erie's request for

(continued...)

the requests substitution of applicants in pending relicensing proceedings, which are in the public interest, and, accordingly approved.

The City of Oswego argues that the transfers should be denied and licenses revoked and pending relicense applications dismissed based on NIMO's lack of intent to operate the projects for which new licenses were recently issued or relicense applications were pending after the time that NIMO intended to sell its projects.¹⁸ The City of Oswego argues that the requests for transfer and for substitution of applicants conflict with policies "regarding site-banking, auctioning of licenses, the failure to amend applications when the requisite intent to own and develop a project is no longer held, and ... to maintain notices of intent that are not valid."¹⁹

However, there is no evidence that NIMO filed its applications for licensing or relicensing simply to sell the projects involved here. In light of the fact that NIMO's divestiture sale is based on the State of New York's effort to restructure its electric utility industry and NIMO's comprehensive PowerChoice Settlement agreement with the State of New York, NIMO's licensing and relicensing applications can hardly be characterized as examples of impermissible "site banking," that is delaying project development while waiting for a need for project power.²⁰ There is no evidence that NIMO would not have continued to operate the projects if it had not been required to divest the projects and had not found a buyer for them. Moreover, there is no statutory or regulatory bar to a licensee transferring its license and selling its project, so long as the transfer and sale comply with the FPA and the Commission's regulations, and Commission approval is obtained,²¹ which is the case here.

Moreover, as noted in the public notice of the transfer applications, the Commission has refused to bar transfers of projects subject to the relicensing process, and instead the Commission's policy is to scrutinize transfer requests for such projects to determine if the transfer's primary purpose is to give the transferee an advantage in

¹⁷(...continued)

acceptance of an Interconnection Agreement between NIMO and Erie.

¹⁸ City of Oswego's motion to intervene, filed June 9, 1999, at p. 12.

¹⁹ Id., at pp. 4-5.

²⁰ See e.g., Idaho Power Co. v. FERC, 767 F.2d 1359, 1393 (9th Cir. 1985).

²¹ Rancho Riata Hydro Partners, Inc., Project 54 FERC ¶ 61,253 (1991).

relicensing, such as when a transfer is intended to escape consideration of a transferor's poor compliance record.²² Here, the compliance record of the transferor is satisfactory, and the transfer will facilitate the continued operation and maintenance of the projects under the divestiture transaction, which in turn is predicated on the State of New York's effort to restructure its electric utility industry and NIMO's comprehensive PowerChoice Settlement agreement. Therefore, there is no basis for concluding that the transfer is an improper attempt to avoid a poor compliance record or otherwise to give Erie an improper advantage in relicensing.

The City of Oswego contends that the transfers of projects with licenses that have expired, and which therefore are operating under annual licenses issued under Section 15(a)(1) of the FPA, are not permitted under Section 8 of the FPA on the ground that Section 15(a)(1) limits the Commission's ability to issue from year to year an annual license to the "then licensee," which the City of Oswego argues excludes the transferees.

However, that Section 15(a)(1) requires the yearly issuance of an annual license to the "then licensee" doesn't mean that annual licenses can't be transferred, as the City of Oswego argues.²³ Section 15(a)(1) does not mention transfers of annual licenses, much less bar them.

The City of Oswego argues that the requests for transfer and for substitution of applicants impermissibly circumvent deadlines for filing final amendments to the relicensing applications under Section 15 of the FPA.

However, while FPA Section 15(c)(1), in pertinent part, requires the Commission to "issue a notice establishing expeditious procedures for relicensing and a deadline for submission of final amendments, if any, to the application," Section 15(c)(2) provides that "[t]he time periods specified in this subsection ... shall be adjusted, in a manner that achieves the objectives of this section by the Commission by rule or order with respect to existing licensees who, by reason of the expiration dates of their license, are unable to comply with a specified time period." The quoted provisions leave the establishment, and appropriate adjustments, of the deadline for final amendments to the Commission. An

²² See Hydroelectric Relicensing Regulations Under the Federal Power Act, 54 Fed. Reg. 23,756 (June 2, 1989); FERC Statutes and Regulations, Regulations Preambles 1986-1990 ¶ 30,854 at p. 31,438 n. 318 (May 17, 1989) (Order No. 513).

²³ The Commission has approved transfers an annual licenses. See, e.g., Edwards Manufacturing Company, Inc., et al., 84 FERC ¶ 61,227 (1998).

adjustment of the deadlines here to permit substitution of applicants is appropriate, since such adjustment does not conflict with Commission policy, and at the same time furthers New York State's effort to restructure its electric utility industry and NIMO's comprehensive PowerChoice Settlement agreement.

The City of Oswego contends that the transfers and substitution of applicants in relicensing proceedings thwarts the statutory requirements for federal takeover of the projects under Section 14 of the FPA and the mandated compensation for new licensees for such projects of the "net investment" in the projects, which, as defined in Section 3(13) of the FPA, is reduced by "earnings in excess of fair return." It requests additional time for reconsideration of federal takeover, in light of the sale, and to ensure that NIMO does not receive compensation for the projects in excess of the projects' "net investment."

The appropriate federal agencies have been given notice of the transfers, and additional time is not required to meet the requirements of the government-takeover provisions of Section 14 of the FPA. Moreover, under FPA Section 15(a)(1), the "net investment" is paid by a "new licensee." By contrast, Erie is not a "new licensee," as that phrase is used in Section 15(a)(1). As noted, approval of the transfers allows Erie to step into the shoes of the existing licensee, NIMO.

The City of Oswego contends that NIMO has entered into several power purchase contracts that extend beyond the terms of unspecified project licenses, in violation of Section 22 of the FPA. The City of Oswego contends that such contracts may not be valid, which could adversely affect the ability of Erie to operate the projects. It requests further investigation of these matters before a decision on the transfer applications is made.

While the City of Oswego states that violations of FPA Section 22 exist, it does not specify any of the projects involved. This proceeding will not be delayed based on the City of Oswego's unsubstantiated allegations.

The City of Oswego contends that NIMO's auctioning of NIMO's licenses represents an "impingement" upon the requirements for comprehensive development and licensing authority of the Commission under Sections 10(a) and 4(e) of the FPA. The City of Oswego's argument is an erroneous attempt to transform this transfer proceeding into a licensing proceeding.

The City of Oswego contends that the transfers involve numerous violations of Section 10(h) of the FPA, which prohibit "combinations, agreements, arrangements, express or implied, to limit the output of electrical energy, to restrain trade, or to fix, maintain or increase prices for electrical energy or service." It also notes that FPA Section

10(h)(2) directs the Commission to prevent or to adequately minimize conduct under a license (not otherwise justified by other public interest considerations) that results in the contravention of the antitrust laws, either by including appropriate conditions in the license or, if that is not possible, by refusing to issue a license. It contends that NIMO's auctioning of its projects is an attempt to illegally dictate who the new licensee will be and the requirement for "Transition Power Contracts" will result in a fixing of the price of the projects' power.

However, the City of Oswego doesn't explain how NIMO's auctioning its projects or the use of "Transition Power Contracts" results in a violation of Section 10(h). Moreover, in its order reviewing and approving the NIMO divestiture transaction under Section 203 of the FPA,²⁴ the Commission found that the proposed divestiture will not adversely affect competition, and that NIMO and Erie's rate proposals meet Commission policies for demonstrating the lack of, or adequate mitigation of, market power. The City of Oswego's allegations of violations of FPA Section 10(h) are unsubstantiated and speculative. They do not form a proper basis for denying or delaying this proceeding.

GIPA

GIPA (in Project No. 13) contends that NIMO's use of a competitive-bidding process to obtain a purchaser for its projects, and NIMO's rejection of GIPA's offer to purchase Project No. 13, requires the institution of a competitive relicensing process that allows GIPA to acquire the project by exercising the licensing preference accorded municipalities under Section 7(a) of the FPA.²⁵

GIPA's requested relief is denied. Neither NIMO's rejecting GIPA's offer to purchase NIMO projects nor NIMO's use of a competitive-bidding process triggers a competitive relicensing process for Project No. 13, as GIPA contends. As found above in addressing similar contentions by the City of Oswego, there is no statutory or regulatory bar to a licensee transferring its license and selling its project, so long as the transfer and sale comply with the FPA and the Commission's regulations, and Commission approval is obtained. There is no basis for rejecting the NIMO/Erie sale that underlies the transfer application for Project No. 13 and to create a competitive licensing or transfer proceeding

²⁴ 87 FERC ¶ 61,302, supra, slip op. at pp. 9-15.

²⁵ 16 U.S.C. § 800(a).

where GIPA could use municipal preference to obtain the project license for Project No. 13, as it requests.²⁶

GIPA states that it has filed an action in state court to obtain Project No. 13 through eminent domain. GIPA states, based on filings in the eminent domain proceeding, that Orion Holdings controls Erie and therefore Orion Holdings, not Erie, is the real party in interest in this proceeding. GIPA argues that because Orion Holdings would directly compete with GIPA for marketing electricity, approving the transfer would give Orion Holdings an unfair competitive advantage by allowing it to acquire the project without acquiring any of the liabilities or obligations in the license.

That Orion Holdings is the parent company of Erie's general partner, Orion GP, is not a bar to approving the transfers of license to Erie. Erie is a separate legal entity that is qualified to become the sole licensee for Project No. 13. The key point is whether Erie, as a limited partnership, holds the license and controls rights in project property needed to fulfill license conditions. If some other legal entity holds the license or such property rights, whether or not it is also a general partner, or as here, the parent company of the general partner, then it must become a licensee.²⁷ However, approval of the transfer is contingent upon Erie, and no other entity, obtaining and retaining all rights necessary to fulfill project requirements. Moreover, GIPA has failed to show that the relationship between Orion Holdings and Orion GP will result in anti-competitive consequences if the transfers are approved.²⁸

²⁶ Contrast City of Vidalia, Louisiana, et al., 28 FERC ¶ 61,328 (1984), where a municipal licensee sought Commission approval to transfer the license for Project No. 2854 from the municipal licensee to the municipal licensee and a private entity. To prevent improperly extending to the private entity the benefits of municipal preference that the municipal licensee had used in obtaining the license and, at the same time, to facilitate prompt development of the project's generating capacity, the Commission denied the transfer application without prejudice to its being resubmitted under a competitive license transfer proceeding.

²⁷ See Little Falls Hydro, 28 FERC ¶ 61,214 (1984).

²⁸ See the discussion, supra, addressing the City of Oswego's contentions of anti-trust consequences of the NIMO-Erie transaction.

GIPA further requests that the Commission decline to act on the application until the New York State court hearing the eminent domain proceeding determines whether it is in the public interest for GIPA to take over the project.

However, GIPA's state eminent domain proceeding will not determine who the licensee of Project No. 13 should be, which is the obligation of this Commission.²⁹ Delaying the NIMO-Erie transaction as to Project No. 13 until the conclusion of GIPA's eminent domain court proceeding is not in the public interest and accordingly is denied.

NYRU

NYRU argues that the transfer application is incomplete because it does not contain the information required by Section 9.1 of the Commission's transfer application regulations. It points out that Section 9.1 requires transfer applications to "be filed in accordance with Section 4.31 of this chapter," which, NYRU observes, pertains to applications for preliminary permits, licenses, and exemptions. NYRU contends that the transfer application is deficient because it only contains financial information³⁰ and does not contain information required for permit, license, and exemption applications under Section 4.31. NYRU requests information concerning how Erie proposes to operate the projects under "discretionary" rights under the license, any foreseeable changes in project operations, including those that may have an environmental impact.

The transfer applications are not deficient, as NYRU alleges. Section 9.1 of the Commission's transfer regulations requires transfer applications to conform to the form application in 18 C.F.R. § 131.20 and be filed in accordance with Section 4.32 of the Commission's regulations. The reference to "Section 4.31" in Section 9.1 of the transfer regulations actually refers to the predecessor regulation of current Section 4.32 of the Commission's regulations,³¹ which pertains to acceptance of applications, including the appropriate number of copies. The transfer application form in Section 131.20 requires submitting exhibits setting forth proof of citizenship of the transferee and compliance with state requirements under former Section 9(b) of the FPA, now FPA Section 9(a)(2).

²⁹ See First Iowa Hydro-Electric Cooperative v. FPC, 328 U.S. 151, 180 (1946).

³⁰ NYRU does not dispute Erie's financial fitness to become the licensee.

³¹ See Change in Procedure for Submission of Applications for Processing, 51 FPC 159, 159-160 and 162 (1974) (Order No. 501), which amended, inter alia, former Section 4.31 (current Section 4.32) and current transfer Sections 9.1 and 9.10.

Section 9.1 does not require transfer applicants to submit the environmental impact information that NYRU claims it does.

To the extent that the licenses afford Erie any measure of discretion in its operation of the projects, Erie will have exactly the same amount of discretion as NIMO, no less and no more, and will be subject to the same degree of oversight by the Commission in its compliance with the requirements of the license. NYRU has not provided any explanation of how, in its view, Erie's operation of the projects under those licenses would in any way differ materially from NIMO's operation of the projects under those same licenses. Nor has NYRU suggested that Erie can not or will not fulfill all of its responsibilities and obligations under the licenses.

Finch, Pruyn, The Tribe, Concerned Property Owners Against Flooding (CPOAF), Federation, and NHI

These parties express concern about the operational and environmental impacts of the projects.

Finch, Pruyn intervened in the transfer of the licenses for the Feeder Dam Project No. 2554 (both the NIMO-to-Erie and Moreau-to-NIMO transfers) and E.J. West Project No. 2318. It states that the transfers could affect the operation of the Feeder Dam Project and hence the flow of water downstream of the project, which could affect the operation of the Glens Falls Project for which Finch, Pruyn is the owner/operator and the operation of a large paper mill located on the Hudson River downstream of the Feeder Dam.

The Tribe (in Project No. 7518) states that the project affects flows, water quality, and related resources of the Saint Regis River, which directly affect the Tribe's interests in fisheries management, recreation, traditional cultural properties, and economic development. The Tribe also states that the project is located on lands that are subject to on-going proceedings in the Federal Courts.³²

The CPOAF (in Project No. 5984) is concerned about operational changes to the project's headpond elevation management during changing and increased flows that could result in damaging effects of high water to upstream residents and property owners.

³² The Tribe does not state any reasons why it opposes the transfer but requests party status so that it may be afforded the opportunity to protect its interests.

The Federation states its concern about the operation of Project No. 2318 and its impact on fisheries due to lake level drawdowns, and the financial losses and the negative impact on tourism in the area when low water levels occur.

NHI states that it does not generally oppose the applications, but seeks assurance that the transfers will not result in degradation of the environmental quality or other beneficial uses of the affected waters.

The concerns raised by the above-named parties about operational and environmental impacts are beyond the scope of this proceeding. When a license is transferred, the new licensee is subject to all of the requirements to which the old licensee was subject under the license and the Commission's orders thereunder.³³ Moreover, the mere transfer of a license does not alter the project's environmental impacts, or the determination of what mitigation measures are warranted. It is consequently inappropriate to bring into transfer proceedings issues of project impacts and proposed mitigation measures for such impacts.³⁴ Accordingly, there is no basis for reevaluating the terms and conditions of the license in connection with this transfer, as the parties suggest.

DOI

DOI protests the transfers unless Erie "clarifies its intentions, in writing...confirming the assumption of obligations of [NIMO], which may or may not, be expressly included in the current license." In Project Nos. 2047, 2318, 2482, and 2554, DOI wants written assurance that Erie is willing to take part in on-going relicensing settlement negotiations that were begun with NIMO. Further, DOI states that there are settlement agreements included in the licenses for Project Nos. 2569 and 2645, and it wants assurance that Erie

³³ Under the governing provisions of Section 8 of the FPA, 16 U.S.C. § 801, transferees are "subject to all of the conditions of the license ... and ... to all the provisions and conditions of this Act to the same extent as though [they] ... were the original licensee...."

³⁴ See, e.g., *Menominee Company and N.E.W. Hydro, Inc.*, 74 FERC ¶ 61,067 (1996) (footnotes omitted) (where the Commission found that it is inappropriate to bring into transfer proceedings issues of project impacts and proposed mitigation measures), *aff'd sub nom. State of Wisconsin v. FERC*, 104 F.3d 462 (D.C.

will comply with the terms of those agreements.³⁵ DOI also states that, in Project Nos. 2060, 2084, 2320, and 2330, there is a settlement offer currently pending on Commission review that contains a provision in which the NYSDEC can purchase certain non-project lands. DOI requests that Erie confirm in writing that it will comply with the terms of the settlement if the transfers are approved.³⁶

The Commission encourages settlements, but Erie's decision to participate in a settlement negotiation is not a prerequisite to approving the transfer applications, as DOI suggests, and the transfers in the subject projects will not be denied for lack of Erie's commitment to take part in settlement negotiations, as DOI requests.³⁷ Erie, as the licensee for the subject projects, will be responsible for fulfilling settlements to the extent that they are included in the project licenses. However, this is not the appropriate forum for determining the extent to which settlement agreements will be included in the licenses.³⁸

DOI states that the licenses in Project Nos. 2474, 2539, and 2616 have expired and the projects are operating under annual licenses with no environmental mitigation measures. It states that NIMO's requests for water quality certifications under the Clean Water Act were denied and are the subject of appeal. DOI states that it has filed prescriptions for fishways pursuant to Section 18 of the FPA. These prescriptions have not

³⁵ DOI also states that NIMO has recently filed an application to amend the license in Project No. 2569 without following the provisions of the settlement agreement included in that project's license. DOI states that Erie must confirm its intent to comply with the terms of the settlement in Project No. 2569, by withdrawing the amendment application and proceeding with proposed changes pursuant to settlement provisions. This request is beyond the scope of this proceeding, which is not the appropriate forum for deciding the adequacy of the pending license amendment application.

³⁶ NHI and NYRU make similar requests.

³⁷ Erie states that it "intends to proceed as if it is indeed stepping into the shoes of NIMO and is willing to state that where NIMO has executed and bound itself to a settlement agreement, Erie will honor that agreement." See p. 5 of the Response of NIMO Power Corporation and Erie Boulevard Hydropower, L.P. to Various Interventions, Comments and Protests. The requirements of 18 C.F.R. § 385.213(a)(2), under which an answer to a protest may not be made, are waived so that the Commission can be fully informed on the important issues involved in this proceeding.

³⁸ See *New England Power Company*, 82 FERC ¶ 62,138, reh'g denied 82 FERC ¶ 61,272 (1998).

been implemented by NIMO because the licenses are pending before the Commission. The DOI wants assurance that Erie will assume responsibility for cumulative impacts to the fishery resources caused by NIMO's failure to provide for fish passage and to protect and enhance the fishery as required by the DOI.

As noted, annual licenses are issued under the same terms and conditions as the original licenses. Also, as noted, when a license is transferred, the new licensee assumes the responsibilities of the old licensee, and is subject to any and all requirements to which the old licensee was subject under the license and the Commission's orders thereunder.³⁹ This proceeding, however, is not the proper forum for deciding the specific scope of those requirements, as DOI requests.⁴⁰

DOI protests the transfer of licenses unless Erie is expressly required to notify and obtain consent from DOI regarding any extensions of time for any license conditions which require consultation with the Fish and Wildlife Service. Further, the DOI is requesting the Commission view with disfavor request for extensions of time that are based solely on the transfer.

DOI's request is denied. The timing of a compliance filing is an administrative matter between the licensee and the Commission. The exception is where the license article involved states that an entity must be consulted with respect to any request for extension of a deadline established therein.⁴¹ There is no proper basis for amending the NIMO licenses to include provisions giving DOI consultation and approval authority for extensions of time, as DOI requests.

NYSDEC

NYSDEC is concerned about its efforts in on-going compliance matters regarding the Chasm Project No. 7320 and Oswego Falls Project No. 5984. In Project No. 5984, NYSDEC alleges that NIMO caused the drawdown of the impoundment at this project

³⁹ See 83 FERC ¶ 61,272 (1998) and 82 FERC ¶ 62, 138 (1998)

⁴⁰ See, e.g., *Menominee Company and N.E.W. Hydro, Inc.*, 74 FERC ¶ 61,023 at p. 61,067 (1996) (footnotes omitted) (where the Commission found that it is inappropriate to bring into transfer proceedings issues of project impacts and proposed mitigation measures), aff'd sub nom. *State of Wisconsin v. FERC*, 104 F.3d 462 (D.C. Cir. 1997).

⁴¹ See *Bangor Hydro-Electric Company*, 87 FERC ¶ 61,035 (1999).

which resulted in a massive fishkill in Ox Creek. In Project No. 7320, NYSDEC alleges that NIMO knowingly released accumulated sediments into the Salmon River from a gate at the base of the Chasm Dam, which created a sediment plume that affected a seven-mile stretch of the Salmon River. NYSDEC is currently negotiating with NIMO for a potential settlement. NYSDEC requests assurances that approval of the transfer "will not prejudice [NYSDEC's] compliance efforts, either through negotiated settlement or the formal prosecution of legal charges, whether administrative, civil or criminal ... [and] that the instant transfers will not impair New York State's options for obtaining remedial action for the Salmon River by the operator of these projects." ⁴²

While they question the relevancy of these compliance matters, NIMO and Erie do not object to such assurances. ⁴³

NYSDEC's request for relief appears to be focusing on monetary damages for the fishkill and sediment release and future compliance with license requirements, and perhaps changes in project operations, to prevent such occurrences in the future. Compliance is a relevant issue in transfer proceedings, and Erie will be responsible for implementing any remedial measures the Commission finds are required pursuant to NYSDEC's allegations. However, it is well-settled that the Commission has no authority to require payment of damages, which are instead the responsibility of the licensee, as fixed and enforced by local courts.⁴⁴

⁴² See NYSDEC's petition for intervention, filed June 8, 1999, at p. 4.

⁴³ See p. 3 of the Response of NIMO Power Corporation and Erie Boulevard Hydropower, L.P. to Various Interventions, Comments and Protests, supra. While, as noted, the applicants agree to the requested assurances, supra, at pp. 2-3. While the Commission has found that a license transfer proceeding is not the proper forum to address issues pertaining to a project's environmental impact (see, e.g., Rancho Riata Hydro Partners, 54 FERC ¶ 61,253, at p. 61,735 (1991)) and the orders cited in this order concerning requests for requirements addressing the environmental impact of the projects involved), past and future compliance with the licenses to be transferred are relevant issues in license transfer proceedings (see New York Irrigation District, et al., 58 FERC ¶ 61,271, at p. 61,858 (1992)).

⁴⁴ See, e.g., Mead Corporation, Publishing Paper Division, 76 FERC ¶ 61,352 (1996), citing South Carolina Public Service Authority v. FERC, 850 F.2d 788 (D.C. Cir. 1988).

III. ADDITIONAL PROJECT COMPLIANCE MATTERS

The Commission's Division of Dam Safety and Inspections reviewed the operations of each project. Several projects have ongoing maintenance activities which need to be continued when the projects are transferred. These include:

Carry Falls Project No. 2060

The consultant for the 1998 Part 12D Inspection Report found no dam safety problems, but made three recommendations involving monitoring and maintenance. The licensee has scheduled regrading work on Dike E in September 1999. The licensee will be required to continue and complete this maintenance work in a timely manner, under the Commission's existing Part 12 authority.

E.J. West Project No. 2318

The consultant for the 1994 Part 12D Inspection Report found stability problems with the side-channel spillway structure (presently, a non-project structure) and made two recommendations that would be implemented after a new license for the E.J. West project has been issued. Those recommendations were (1) to prepare plans and specifications for stabilization of the side-channel spillway, and raise the abutment wall at the left end of the embankment to prevent overtopping; and (2) to reevaluate the existing instrumentation of the dam pursuant to minimum instrumentation requirements established in the FERC Engineering Guidelines.

Middle Raquette Project No. 2320

The licensee has scheduled repair work on the Higley Development head gates in the near future. The licensee will be required to continue and complete this repair work in a timely manner, under the Commission's existing Part 12 authority.

Lower Raquette Project No. 2330

The licensee has scheduled concrete repair work at the Norwood Development in 1999. The licensee will be required to continue and complete this repair work in a timely manner, under the Commission's existing Part 12 authority.

Oswegatchie River Project No. 2713

A timber flume at the Oswegatchie Development collapsed in November 1992 and the development has been out of service since then. The licensee has been evaluating the economics of redeveloping the site and must file a plan and schedule to either restore service or remove the Oswegatchie Development from the project by December 31, 1999. The licensee will be required to either restore the development in a timely manner, or file a plan with the Commission for removal of the development from the license.

Salmon River Project No. 11408

Waterbury Road (Route 17) is a roadway embankment that passes near the project reservoir. In cases of flood, this structure would act as a saddle dike and retain high reservoir water levels. The roadway embankment is owned and maintained by the county. Under license article 5, the licensee has five years from the issuance date of the license to acquire title to the embankment or rights to use the property sufficient to fulfill license requirements. The licensee will be required to fulfill any remaining requirements of license article 5.

IV. CONCLUSIONS

NIMO has generally complied with the terms of the licenses. NIMO has paid all of the annual charges and has agreed to continue to pay charges which accrue until the transfers are effective.

The proposed transfers and attendant requests for substitution of applicants are consistent with the Commission's regulations and are in the public interest.

Erie is not a licensee of the Commission. Therefore, we have no hydroelectric compliance record to review. Nevertheless, as noted, Erie is retaining many NIMO employees to operate the projects and otherwise is qualified to hold the licenses and to operate the properties under the licenses, and it has agreed to accept all the terms and conditions of the licenses, and to be bound by the licenses as if it were the original licensee.

The Director orders:

(A) Transfer of the licenses from Niagara Mohawk Power Corporation (NIMO) to Erie Boulevard Hydropower L.P. (Erie) for the following projects is approved: Green Island Project No. 13; Black River Project No. 2569; Feeder Dam Transmission Line Project No. 2641; Beaver River Project No. 2645; West Canada Creek Project No. 2701; Oswegatchie River Project No. 2713; Granby Project No. 2837; Oak Orchard

Project No. 3452; Oswego Falls Project No. 5984; Chasm Project No. 7320; Macomb Project No. 7321; Piercefield Project No. 7387; Hogansburg Project No. 7518; Yaleville Project No. 9222; and, Salmon River Project No. 11408.

(B) Transfer of the licenses, and substitution of Erie for NIMO as applicant in the pending relicensing proceedings, for the following projects is approved: Stewarts Bridge Project No. 2047; Carry Falls Project No. 2060; Upper Raquette River Project No. 2084; E.J. West Project No. 2318; Middle Raquette Project No. 2320; Lower Raquette Project No. 2330; Oswego River Project No. 2474; Hudson River Project No. 2482; School Street Project No. 2539; Feeder Dam Project No. 2554; and Hoosic River Project No. 2616.

(C) Substitution of Erie for NIMO as the applicant in the initial licensing proceedings for the Parishville Project No. 10461 and the Allens Falls Project No. 10462, is approved.

(D) Transfer of the Beebee Island Project No. 2538 from Beebee Island Corporation and NIMO to NIMO is approved.

(E) Transfer of the Beebee Island Project No. 2538 from NIMO to Erie is approved, subject to compliance requirements in ordering paragraph H below for the approval in ordering paragraph D above.

(F) Transfer of the license for the Feeder Dam Project No. 2554 from Moreau to NIMO and substitution of NIMO for Moreau in the pending relicensing proceeding for Project No. 2554 is approved.

(G) Transfer of the license for the Feeder Dam Project No. 2554 from NIMO to Erie and the substitution of Erie for NIMO in the pending relicensing proceeding for Project No. 2554 is approved, subject to compliance requirements in ordering paragraph H below for the approval in ordering paragraph F above.

(H) Approval of the respective transfers and the substitution of applicants are contingent upon: (1) transfer of title of the properties under license and delivery of all license instruments to the transferees, which shall be subject to the terms and conditions of the licenses as though they were the original licensee(s); and (2) the transferees acknowledging acceptance of this order and its terms and conditions by signing and returning the attached acceptance sheets. Within 60 days from the date of this order, the transferees shall submit certified copies of all instruments of conveyance and the signed acceptance sheets.

(I) The transferees shall pay all annual charges that accrue up to the effective date of their respective transfers.

(J) The request for Commission approval to transfer the license for Project No. 2696 is dismissed, without prejudice to refiling the request should the Commission's decision accepting surrender of the license for Project No. 2696 is reversed on judicial appeal, as described in this order.

(K) The motions to dismiss, to rescind, to revoke, and for a competitive relicensing proceeding filed by City of Oswego (except as to Project Nos. 10461 and 10462, as noted in this order) are denied.

(L) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713.

A handwritten signature in dark ink, appearing to read 'J. Mark Robinson', with a long horizontal flourish extending to the right.

J. Mark Robinson

Director

Division of Licensing and Compliance

Project Nos. 13 et al.

IN TESTIMONY of its acknowledgment of acceptance of all of the terms and conditions of this order, Erie Boulevard Hydropower, L.P. this _____ day of _____, 19____, has caused its corporate name to be signed hereto by _____, its President, and its corporate seal to be affixed hereto and attested by _____, its Secretary, pursuant to a resolution of its Board of Directors duly adopted on the _____ day of _____, 19____, a certified copy of the record of which is attached hereto.

By _____

Attest:

Secretary
(Executed in quadruplicate)

APPENDIX B

DISTRIBUTION LIST

West Canada Creek Hydroelectric Project (P-2701)

Distribution List

Federal Governmental Agencies

John Fowler, Executive Director
Advisory Council on Historic Preservation
401 F Street NW, Suite 308
Washington, DC 20001-2637
jfowler@achp.gov

Bruce Maytubby
Bureau of Indian Affairs
Eastern Regional Office
545 Marriott Drive, Suite 700
Nashville, TN 37214

John Bullard
National Oceanic and Atmospheric
Administration
Greater Atlantic Regional Fisheries Office
55 Great Republic Drive
Gloucester, MA 01930-2276
John.Bullard@noaa.gov

Joseph Seebode, Deputy District Engineer
U.S. Army Corps of Engineers - New York
District
26 Federal Plaza
New York, NY 10278-0090

Andrew Raddant, Regional Environmental
Officer
U.S. Department of the Interior
Office of Environmental Policy and
Compliance Northeast Region
15 State Street, 8th Floor
Boston, MA 02109

Andrew Tittler, Agency Counsel
U.S. Department of Interior
One Gateway Center
Suite 612
Newton, MA 02458
andrew.tittler@sol.doi.gov

Peter Lopez, Deputy Regional Administrator
U. S. Environmental Protection Agency,
Region 2
290 Broadway
New York, NY 10007-1866
lopez.peter@epa.gov

David Stilwell
U.S. Fish and Wildlife Service
NY Region 5 Field Office
3817 Luker Road
Cortland, NY 13045
david_stilwell@fws.gov

Steve Patch
U.S. Fish and Wildlife Service
New York Field Office (Region 5)
3817 Luker Road
Cortland, NY 13045
stephen_patch@fws.gov

John Wiley
U.S. Fish and Wildlife Service
3817 Luker Rd.
Cortland, NY 13045
john_wiley@fws.gov

Kevin Mendik, Environmental Protection
Specialist
U.S. National Park Service
15 State Street
Boston, MA 02109
Kevin_Mendik@nps.gov

Duncan Hay
National Park Service – Northeast Region
15 State Street
Boston, MA 02109
duncan_hay@nps.gov

West Canada Creek Hydroelectric Project (P-2701)

Distribution List

State Governmental Agencies

Jonathan Binder
Office of General Counsel
New York State Department of
Environmental Conservation
625 Broadway
Albany, NY 12233-0001
jonathan.binder@dec.ny.gov

Larry Ambeau
New York State Department of
Environmental Conservation
317 Washington Street
Watertown, NY 13601
lrambeau@gw.dec.state.ny.us

Jessica Hart
New York State Department of
Environmental Conservation
Division of Environmental Permits, Region
6 Office
Dulles State Office Building
317 Washington St.
Watertown, NY 13601
jessica.hart@dec.ny.gov

Chris Hogan
New York State Department of
Environmental Conservation
625 Broadway – 4th Floor
Albany, NY 12233
cmhogan@gw.dec.state.ny.us

Todd Phillips,
Division of Environmental Permits, Region
6 Utica Sub Office
New York State Department of
Environmental Conservation
207 Genesee Street
Utica, NY 13501
todd.phillips@dec.ny.gov

Terry Tyoe, Regional Permit Administrator
Division of Environmental Permits, Region
6 Utica Sub Office
New York State Department of
Environmental Conservation
Utica State Office Building
207 Genesee St., Room 1404
Utica, NY 13501-2885
dep.r6@dec.ny.gov

Sita Crounse
Office of General Counsel
New York State Department of
Environmental Conservation
625 Broadway
Albany, NY 12207
Sita.Crounse@dec.ny.gov

Russell McCullough, Acting Regional
Fisheries Manager
New York State Department of
Environmental Conservation
317 Washington Street
Watertown, NY 13601
russell.mccullough@dec.ny.gov

Richard McDonald, Aquatic Biologist
New York State Department of
Environmental Conservation
317 Washington Street
Watertown, NY 13601
richard.mcdonald @dcc.ny.gov

David Erway, Aquatic Biologist
New York State Department of
Environmental Conservation
207 Genesee Street
Utica, NY 13501
david.erway@dec.ny.gov

West Canada Creek Hydroelectric Project (P-2701)

Distribution List

Matt Walter, Habitat Biologist
New York State Department of
Environmental Conservation
207 Genesee Street
Utica, NY 13501
matt.walter@dec.ny.gov

Christopher Balk, Habitat Manager
New York State Department of
Environmental Conservation
317 Washington Street
Watertown, NY 13601
christopher.balk@dec.ny.gov

Thomas Vigneault, Regional Water
Engineer
New York State Department of
Environmental Conservation
Utica, NY 13501
thomas.vigneault@dec.ny.gov

Hon. Kathleen H. Burgess
Secretary to the Commission
New York State Public Service Commission
Empire State Plaza
Agency Building 3
Albany, NY 12223-1350
secretary@dps.ny.gov

James Denn
Public Information Officer
New York State Public Service Commission
Empire State Plaza
Agency Building 3
Albany, NY 12223-1350
james.denn@dps.ny.gov

Mark E. Slade, Director, Licensing
New York Power Authority
123 Main St.
White Plains, NY 10601
Mark.Slade@nypa.gov

John Callaghan Acting Executive Deputy
Director of Canals
New York State Canal Corporation
30 S. Pearl Street - 5th Floor
Albany, NY 12207
John.Callaghan@canals.ny.gov

Howard Goebel, Deputy Director, Canal
Engineering, Construction, and Maintenance
New York State Canal Corporation
30 S. Pearl Street
Albany, NY 12207

Rose Harvey, Commissioner
New York State Office of Parks, Recreation
& Historic Preservation
Empire State Plaza
Agency Building 1
Albany, NY 12238

Michael Lynch, Division Director
New York State Division for Historic
Preservation
Peebles Island State Park
P.O. Box 189
Waterford, NY 12188-0189

Joanne Mitchell,
Assistant Regional Manager
New York State Office of Parks, Recreation
& Historic Preservation
Central Region Office
6105 E. Seneca Turnpike
Jamesville, NY 13078

Matthew Maraglio Coastal Review
Specialist
New York Department of State, Office of
Coastal, Local Government and Community
Sustainability
One Commerce Plaza
99 Washington Avenue
Albany, NY 12231-0001
Matthew.Maraglio@dos.ny.gov

West Canada Creek Hydroelectric Project (P-2701)

Distribution List

Jeffrey Zappieri, Supervisor
New York State Department of State
Division of Coastal Resources, Consistency
Review Unit
One Commerce Plaza
99 Washington Avenue
Albany, NY 12231-0001
Jeffrey.zappieri@dos.state.ny.us

Legislative Bodies

Kirsten Gillibrand
U.S. Senate
Leo W. O'Brien Federal Office Building
11A Clinton Avenue - Room 821
Albany, NY 12207

Charles Schumer
U.S. Senate
100 South Clinton Street, Room 841
Syracuse, NY 13261

Elise Stefanik
U. S. Congress
88 Public Square, Suite A
Watertown, NY 13601

Claudia Tenney
U. S. Congress
555 French Road Suite 101
New Hartford, NY 13414

Peggy Rodriguez
Office of Governor Andrew Cuomo
207 Genesee Street Room 707
Utica, NY 13502
Peggy.Rodriguez@exec.ny.gov

Marc Butler
New York State Assembly, District 118
235 North Prospect Street
Herkimer, NY 13350
ButlerM@nyassembly.gov

Joseph Griffo
New York State Senate, District 47
207 Genesee Street, Room 408
Utica, NY 13501
griffo@nysenate.gov

James Tedisco
New York State Senate, District 49
636 Plank Rd., 2nd Floor
Clifton Park, NY 12065-2046
tedisco@nysenate.gov

Counties

Sylvia Rowna, Herkimer County Clerk
109 Mary Street, Suite 1111
Herkimer, NY 13350

Patrick Russell, District 15, County
Legislature
Herkimer County
109 Mary Street, Suite 1310
Herkimer, NY 13350
legislatorrussell@roadrunner.com

James Wallace, County Administrator
Herkimer County
109 Mary Street, Suite 1310
Herkimer, NY 13350

William Weakly, District 17, County
Legislature
Herkimer County
109 Mary St., Suite 1310
Herkimer, NY 13350
wweakley@ntcnet.com

Sandra DePerno, Oneida County Clerk
Oneida County Office Building
800 Park Avenue
Utica, NY 13501
countyclerk@ocgov.net

West Canada Creek Hydroelectric Project (P-2701)

Distribution List

Anthony Picente, Executive
Oneida County
Oneida County Buildings
800 Park Avenue #10
Utica, NY 13501
ce@ocgov.net

Les Porter, District 6, County Board
Legislator
Oneida County
PO Box 236
Remsen, NY 13438
lporter@ocgov.net

Philip Sacco, District 9 County Board
Legislator
Oneida County
11371 Bell Hill Road
Deerfield, NY 13502
psacco@ocgov.net

Towns

Frances Donley, Supervisor
Town of Russia
8916 N. Main Street
P O Box 126
Poland, NY 13431
supervisor@ntcnet.com

Roger Helmer, Supervisor
Town of Remsen
PO Box 308
10540 Academy Lane
Remsen, NY 13438
remsensupervisor@roadrunner.com

Joseph Smith, Supervisor
Town of Trenton
PO Box 206
8520 Old Poland Road
Barneveld, NY 13304
supervisor@town.trenton.ny.us

Tribes

Ray Hallbritter, Nation Representative
Oneida Indian Nation
2037 Dreamcatcher Plaza
Oneida, New York 13421

Jesse Bergevin, Historian
Oneida Indian Nation
2037 Dreamcatcher Plaza
Oneida, New York 13421

Michael Conners, Jr., Tribal Chief
Saint Regis Mohawk Tribe
412 State Route 37
Akwesasne, New York 13655

Beverly Cook, Tribal Chief
Saint Regis Mohawk Tribe
412 State Route 37
Akwesasne, New York 13655

Ken Jock, Environmental Director
Saint Regis Mohawk Tribe
412 State Route 37
Akwesasne, NY 13655

Arnold Printup
Saint Regis Mohawk Tribe
412 State Route 37
Akwesasne, New York 13655
arnold.printup@srmt-nsn.gov

Eric Thompson, Tribal Chief
Saint Regis Mohawk Tribe
412 State Route 37
Akwesasne, NY 13655

Oneida Tribe of Indians of Wisconsin
N7210 Seminary Road
Oneida, WI 54155

West Canada Creek Hydroelectric Project (P-2701)

Distribution List

Non-Governmental Organizations

Bob Irvin, President
American Rivers
1101 14th St NW, Suite 1400
Washington, DC 20005
birvin@americanrivers.org

Robert Nasdor, Northeast Stewardship &
Legal Director
American Whitewater
365 Boston Post Road, Suite 250
Sudbury, MA 01776
bob@americanwhitewater.org

David Klein
Central and Western New York Chapter
The Nature Conservancy
1048 University Ave.
Rochester, NY 14067
dklein@TNC.ORG

Paul Sitroli, Co-Chair
Adirondack Mountain Club, Iroquois
Chapter
9435 Chapman Rd
New Hartford, NY 13413
psirtoli@hotmail.com

Doug Tinkler, Co-Chair
Adirondack Mountain Club, Iroquois
Chapter
4 Clintonview Rd
New Hartford, NY 13413
dt46x40@yahoo.com

Brian Sanders, Conservation
Adirondack Mountain Club, Iroquois
Chapter
7 Bolton Road
New Harford, NY 13413
sandersbrian@hotmail.com

David Corr
Mohawk Valley Chapter of Trout Unlimited
New York Conservation Fund Advisory
Board
28 Sanger Ave
New Hartford, NY 13413
davenhfish@aol.com

Pat Becher, Executive Director
Mohawk Valley Water Authority
1 Kennedy Plaza #3
Utica, NY 13502
pbecher@mvwa.us

William Wellman, Region 5 Vice President
New York State Council of Trout Unlimited
7 Helen Street
Plattsburgh, New York

Paul W. Miller
New York State Council of Trout Unlimited
3825 Miller Road
Blossvale, NY 13308
pmiller3825@yahoo.com

John Montefusco
Trout Power
P.O. 51
Cold Brook, NY 13324

Kathy Kellogg
West Canada Riverkeepers/West Canada
Watershed Alliance
8180 State Route 28
Barneveld, NY 13304
kathlog@msn.com

West Canada Creek Hydroelectric Project (P-2701)

Distribution List

Brookfield

Jon Elmer
Director, Operations
Brookfield Renewable
800 Starbuck Avenue, Suite 802
Watertown, NY 13601
jon.elmer@brookfieldrenewable.com

Pat Storms
Senior Manager, Operations
Brookfield Renewable
800 Starbuck Avenue, Suite 802
Watertown, NY 13601
patrick.storms@brookfieldrenewable.com

Rick Heysler
Manager, Operations
8526 Trenton Falls Road
Barneveld, NY 13304
richard.heidsler@brookfieldrenewable.com

Steve Murphy
Director, Licensing
Brookfield Renewable
33 West 1st Street, South
Fulton, NY 13069
steven.murphy@brookfieldrenewable.com

APPENDIX C

PAD QUESTIONNAIRE AND CONSULTATION RESPONSES



January 11, 2018

VIA USPS

Distribution List

Re: West Canada Creek Hydroelectric Project (FERC No. 2701) Relicensing
Pre Application Document Information Questionnaire

To the Attached Distribution List:

Erie Boulevard Hydropower, L.P. (Erie or Licensee), a Brookfield Renewable Company (Brookfield), is the licensee and operator of the West Canada Creek Hydroelectric Project (FERC No. 2701) (Project). The Project consists of two developments, Prospect and Trenton, and is located on West Canada Creek in Oneida and Herkimer Counties, New York.

The existing Federal Energy Regulatory Commission (FERC) license for the Project expires on February 28, 2023, and Erie, with assistance from Kleinschmidt, is beginning the relicensing process. Accordingly, Erie is preparing a Notice of Intent (NOI) to relicense the Project and Pre-Application Document (PAD) to be filed by February 28, 2018. The PAD will provide FERC and other entities with existing, relevant, and reasonably available information pertaining to the Project as well as resources within the Project vicinity.

Through distribution of this letter and the attached questionnaire, Erie is seeking to accomplish the following:

- Notify interested governmental agencies, non-governmental organizations, Indian tribes, and individuals of the upcoming relicensing proceeding;
- Identify any existing, relevant, and reasonably available information that describes the existing West Canada Creek Project's existing or historical environment; and
- Help identify resource interests for consideration during the relicensing process.

We respectfully request that you please return this PAD questionnaire to Kayla Esler via email at Kayla.Easler@Kleinschmidtgroup.com or self-addressed stamped envelope within 30 days of receipt. This will allow for any follow-up contact that may be needed by Erie's or Kleinschmidt's representative.

If we do not receive a response within 30 days, this will indicate that you are not aware of any existing, relevant, and reasonably available information that describes the existing Project environment. In addition, unless you are a representative of an Indian tribe or federal or state agency, this will indicate that you are not interested in receiving any further correspondence regarding this proceeding and you will be removed from the distribution list for this relicensing process.

Attached to this letter is a distribution list of potentially interested parties developed from previous proceedings related to this project as well as a query of FERC mailings and service lists. If you are aware of any other entity that may be interested in the proceeding, please contact us.

If you have any additional questions, please contact Mr. Steve Murphy with Erie via email at steven.murphy@brookfieldrenewable.com or via phone at 315-598-6130 or Karen Klosowski with Kleinschmidt via email at karen.klosowski@kleinschmidtgroup.com or via phone at 315-409-7198.

Thank you for your assistance. We look forward to working with you during this relicensing proceeding.

Sincerely,



Karen Klosowski
Project Manager

Attachments - Distribution List
Pre-Application Document Information Questionnaire

cc: Steve Murphy, Brookfield
Laura Cowan, Kleinschmidt

WEST CANADA CREEK HYDROELECTRIC PROJECT (FERC No. 2701)
PRE-APPLICATION DOCUMENT INFORMATION QUESTIONNAIRE

Erie Boulevard Hydropower, L.P. (Erie or Licensee), a Brookfield Renewable Company (Brookfield), is the licensee and operator of the West Canada Creek Hydroelectric Project (FERC No. 2701) (Project), located on West Canada Creek in Oneida and Herkimer Counties, New York (see Figure 1).

Under the Federal Power Act, the Federal Energy Regulatory Commission (“FERC”) administers the licensing and relicensing of the West Canada Creek Project. The existing FERC license for the Project expires on February 28, 2023, and Erie, with assistance from Kleinschmidt, is beginning the relicensing process. Accordingly, Erie is preparing a Notice of Intent (NOI) to relicense the Project and Pre-Application Document (PAD) to be filed by February 28, 2018. The PAD will provide FERC and other entities with existing, relevant, and reasonably available information pertaining to the Project as well as resources within the Project vicinity.

This PAD Questionnaire is being used to help identify sources of existing, relevant, and reasonably available information pertinent to the Project that is not currently in Erie’s possession. This information will help to identify any data collection needs or potential resource issues early in the relicensing process. Our intent is to include results of this information request questionnaire in the PAD.

We respectfully request that you please return this PAD questionnaire to Kayla Easler via email at Kayla.Easler@Kleinschmidtgroup.com or via the self-addressed stamped envelope within 30 days of receipt. This will allow for any follow-up contact that may be needed by Erie’s or Kleinschmidt’s representative.

If we do not receive a response within 30 days, this will indicate that:

- you are not aware of any existing, relevant, and reasonably available information that describes the existing Project environment; and
- unless you are representative of an Indian tribe or federal or state agency, you (and your organization) are not interested in receiving any further correspondence regarding this proceeding and you will be removed from the distribution list.

We greatly appreciate your response and your assistance in this effort to identify information resources and interested parties in this proceeding.

WEST CANADA CREEK HYDROELECTRIC PROJECT (FERC No. 2701) PRE-APPLICATION DOCUMENT INFORMATION QUESTIONNAIRE

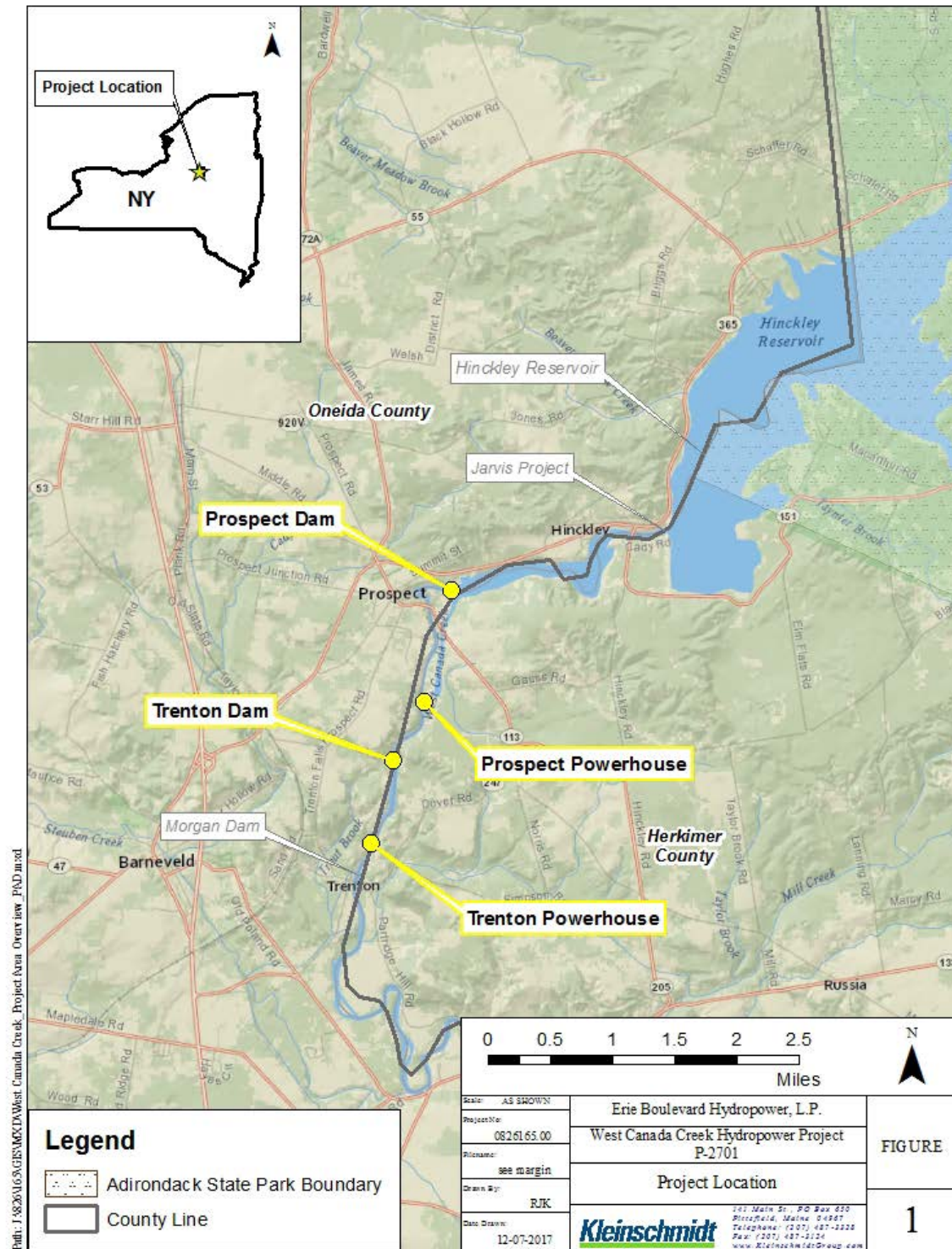


Figure 1. West Canada Creek Project Location

WEST CANADA CREEK HYDROELECTRIC PROJECT (FERC No. 2701)
PRE-APPLICATION DOCUMENT INFORMATION QUESTIONNAIRE

1. Please provide the following information about the person completing this questionnaire.

Name & Title	
Organization	
Address	
Phone	
Email Address	

2. Do you or your organization plan to participate in the West Canada Creek Project's relicensing proceeding?

☐ Yes (*if yes, please complete information below*) ☐ No (*if no, please go to No. 3*)

Please provide the contact information for the representative(s) of your organization that will be participating in the relicensing process for this Project. (***Additional contacts may be provided on a separate page.***)

Name & Title	
Organization	
Address	
Phone	
Email Address	

3. If you and the entity you represent do not want to receive any further correspondence associated with this proceeding, please indicate so here:

☐ Please remove me and the entity I represent from the mailing list.

WEST CANADA CREEK HYDROELECTRIC PROJECT (FERC No. 2701)
PRE-APPLICATION DOCUMENT INFORMATION QUESTIONNAIRE

4. Do you or your organization know of any existing, relevant, and reasonably available information that describes the existing West Canada Creek Project's existing or historical environment (i.e., Project area, adjacent Project vicinity, or areas upstream or downstream of the Project)?

___ Yes (*if yes, please complete Nos. 4a through 4d*) ___ No (*if no, please go to No. 5*)

- a. If yes, please circle the specific resource area(s) that the information relates to:

- | | |
|--|------------------------------|
| • Geology and soils | • Recreation and land use |
| • Water resources | • Aesthetic resources |
| • Fish and aquatic resources | • Cultural resources |
| • Wildlife and botanical resources | • Socioeconomic resources |
| • Wetlands, riparian, and littoral habitat | • Tribal resources |
| • Rare, threatened, and endangered species | • Other resource information |

- b. Please briefly describe the information referenced above and/or list available documents (*additional information may be provided on page 6 of this questionnaire*).
- c. Please provide referenced document, source website link, or description of where Erie can obtain this information, if available.

WEST CANADA CREEK HYDROELECTRIC PROJECT (FERC No. 2701)
PRE-APPLICATION DOCUMENT INFORMATION QUESTIONNAIRE

- d. Based on the specific resources listed in 4a, are you aware of any specific issues related to the identified resource area(s)?

___ Yes (*please list specific issues below*) ___ No (*if no, please go to No. 5*)

Resource Area	Description of Issue

5. If you have additional comments and/or questions regarding the West Canada Creek Project, or the relicensing process, please provide them below.

TABLE B-1. SUMMARY OF PAD QUESTIONNAIRE STAKEHOLDERS RESPONSES

ORGANIZATION	RECIPIENT OF QUESTIONNAIRE	PLAN TO PARTICIPATE IN RELICENSING	PAD QUESTIONNAIRE RESPONSE
Advisory Council on Historic Preservation	John Fowler, Executive Director	N/A	No Response
Bureau of Indian Affairs Eastern Regional Office	Harold Peterson	Yes	Response received. Oneida Nation of Wisconsin should be consulted in addition to the Oneida Nation of New York.
National Oceanic and Atmospheric Administration	John Bullard	N/A	No Response
U.S. Army Corps of Engineers	Joseph Seebode, Deputy District Engineer	N/A	No Response
U.S. Department of the Interior	Andrew Raddant, Regional Environmental Officer	N/A	No Response
	Andrew Tittler, Agency Counsel	N/A	No Response
U.S. Environmental Protection Agency	Peter Lopez, Deputy Regional Administrator	N/A	No Response
	Lingard Knutson	Yes	Response received. Hinckley Reservoir and West Canada Creek are on 303(d) list of impaired waters.
U.S. Fish and Wildlife Service	David Stilwell, New York Field Office (Region 5)	N/A	No Response
	John Wiley, New York Field Office (Region 5)	Yes	Response received. Federally listed species information is available. Resource Issues: Geology and Soils – erosion and scouring in impoundments and streambanks; Water Resources – bypassed reach flows, downstream flows, peaking and ponding, water quality; Fish and Aquatic Resources – fisheries, fish protection and passage, macroinvertebrates/mussels; Wetlands - same as geology/soils; Recreation and Land Use – fishing access and safety, access at site/falls; cumulative impact with Jarvis/Hinckley, NYCC, MVWA. Relicensing and studies should be coordinated with Jarvis relicensing.

ORGANIZATION	RECIPIENT OF QUESTIONNAIRE	PLAN TO PARTICIPATE IN RELICENSING	PAD QUESTIONNAIRE RESPONSE
U.S. Fish and Wildlife Service	Steve Patch, New York Field Office (Region 5)	N/A	No Response
U.S. National Park Service	Kevin Mendik, Environmental Protection Specialist	N/A	No Response
	Duncan Hay, National Park Service – Northeast Region	N/A	No Response
New York State Department of Environmental Conservation	Jonathan Binder, Office of General Counsel	N/A	No Response
	Larry Ambeau	N/A	No Response
	Jessica Hart	N/A	No Response
	Chris Hogan	N/A	No Response
	Todd Phillips	Yes	Response received. NYSDEC has information regarding fishery resources. Pair of breeding bald eagles is known to frequent project area. Prospect reservoir used recreationally by fishermen, boaters and kayakers. Resource Issues: Fish and Aquatic Resources - thermal pollution and minimum flows; RTE - bald eagle, Water - FEMA mapped floodplains, C(T) classified stream; Cultural - archaeosensitive area; Recreational - Prospect Reservoir and West Canada creek below dam.
	Terry Tyoe, Regional Permit Administrator, Div. of Environ. Permits, Region 6	N/A	No Response
	Sita Crounse, Office of General Counsel	N/A	No Response
New York Public Service	Hon. Kathleen H. Burgess, Secretary to the Commission	N/A	No Response
	James Denn, Public Information Officer	N/A	No Response
New York Power Authority	Mark E. Slade, Director, Licensing	N/A	No Response

ORGANIZATION	RECIPIENT OF QUESTIONNAIRE	PLAN TO PARTICIPATE IN RELICENSING	PAD QUESTIONNAIRE RESPONSE
New York State Canal Corporation	John Callaghan Acting Executive Deputy Director of Canals	N/A	No Response
New York State Canal Corporation	Howard Goebel, Deputy Director, Canal Engineering, Construction, and Maintenance	N/A	No Response
New York State Office of Parks, Recreation & Historic Preservation	Rose Harvey, Commissioner	N/A	No Response
	Michael Lynch, Division Director	N/A	No Response
	Joanne Mitchell, Assistant Regional Manager	N/A	No Response
New York Department of State, Office of Coastal, Local Government and Community Sustainability	Matthew Maraglio Coastal Review Specialist	N/A	No Response
New York State Department of State, Division of Coastal Resources, Consistency Review Unit	Jeffrey Zappieri. Supervisor	N/A	No Response
U.S. Senate	Kirsten Gillibrand, U.S. Senator	N/A	No Response
	Charles Schumer, U.S. Senator	N/A	No Response
U.S. Congress	Rep. Elise Stefanik	N/A	No Response
	Rep. Claudia Tenney	N/A	No Response
Office of Governor Andrew Cuomo	Peggy Rodriguez, Regional Rep. for the Mohawk Valley	N/A	No Response

ORGANIZATION	RECIPIENT OF QUESTIONNAIRE	PLAN TO PARTICIPATE IN RELICENSING	PAD QUESTIONNAIRE RESPONSE
New York State Assembly, District 118	Marc Butler, Assemblyman	N/A	No Response
New York State Senate, District 47	Joseph Griffo, New York State Senator	N/A	No Response
New York State Senate, District 49	James Tedisco, New York State Senator	N/A	No Response
Herkimer County	Sylvia Rowna, Herkimer County Clerk	N/A	No Response
	Patrick Russell, District 15, County Legislature	N/A	No Response
	James Wallace, County Administrator	N/A	No Response
	William Weakly, District 17, County Legislature	N/A	No Response
Oneida County	Sandra DePerno, Oneida County Clerk	N/A	No Response
	Anthony Picente, Executive	N/A	No Response
	Les Porter, District 6, County Board Legislator	N/A	No Response
	Philip Sacco, District 9 County Board Legislator	N/A	No Response
Town of Russia	Frances Donley, Supervisor	N/A	No Response
Town of Remsen	Roger Helmer, Supervisor	N/A	No Response
Town of Trenton	Joseph Smith, Supervisor	N/A	No Response
Oneida Indian Nation	Ray Hallbritter, Nation Representative	N/A	No Response
	Jesse Bergevin, Historian	N/A	No Response

ORGANIZATION	RECIPIENT OF QUESTIONNAIRE	PLAN TO PARTICIPATE IN RELICENSING	PAD QUESTIONNAIRE RESPONSE
Saint Regis Mohawk Tribe	Michael Conners, Jr., Tribal Chief	N/A	No Response
	Beverly Cook, Tribal Chief	N/A	No Response
	Ken Jock, Environmental Director	N/A	No Response
	Arnold Printup	Yes	Response received. No specific comments, would like to be included in the process.
	Eric Thompson, Tribal Chief	N/A	No Response
American Rivers	Bob Irvin, President	N/A	No Response
American Whitewater	Robert Nasdor	Yes	Response received. Identified reach below West Canada Creek as whitewater boating recreation resource. Resource Issue: Recreation- Project operations adversely impact whitewater boating opportunities.
The Nature Conservancy	David Klein	N/A	No Response
Adirondack Mountain Club - Iroquois Chapter	Paul Sitroli, Co-Chair	Yes	Response received. No specific comments, would like to be included in the process.
	Brain Sanders, Conservation	N/A	No Response
Mohawk Valley Chapter of Trout Unlimited	Doug Tinkler, Co-Chair	N/A	No Response
	David Corr	Yes	Response received. Issues - Flow rates - flow rates need to be increased; Hinckley capacity needs to be updated.
Mohawk Valley Water Authority	Elisabetta DeGironimo Watershed & GIS Coordinator	Yes	Response received. Provided references and information about SPDES permit status, Hinckley Reservoir and MVWA water quality sampling. Resource Issues - indicated the MVWA SPDES permit is adversely affected by the operation of the Prospect Project, included water resource studies and MVWA information.
	Richard Goodney, PE Director of Engineering		
New York State Council of Trout Unlimited	William Wellman, Region 5 Vice President	N/A	No Response
	Paul W. Miller	N/A	No Response
Trout Power	Mark Usyk, Secretary	N/A	No Response
West Canada Riverkeepers/West Canada Watershed Alliance	Kathy Kellogg	N/A	No Response



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office

3817 Luker Road
Cortland, NY 13045-9349

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

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



In Reply Refer To:

February 20, 2018

Consultation Code: 05E1NY00-2018-SLI-1205

Event Code: 05E1NY00-2018-E-03577

Project Name: West Canada Creek Hydroelectric Project (FERC No. 2701)

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

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: <http://www.fws.gov/northeast/nyfo/es/section7.htm>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (<http://www.fws.gov/windenergy/>)

[eagle_guidance.html](#)). Additionally, wind energy projects should follow the Services wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

New York Ecological Services Field Office

3817 Luker Road

Cortland, NY 13045-9349

(607) 753-9334

Project Summary

Consultation Code: 05E1NY00-2018-SLI-1205

Event Code: 05E1NY00-2018-E-03577

Project Name: West Canada Creek Hydroelectric Project (FERC No. 2701)

Project Type: DAM

Project Description: The 39.75 MW West Canada Creek Project consists of two developments located on West Canada Creek in the Towns of Trenton and Russia, Oneida and Herkimer Counties, New York.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/43.29201002376186N75.1466331431562W>



Counties: Herkimer, NY | Oneida, NY

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Mammals

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

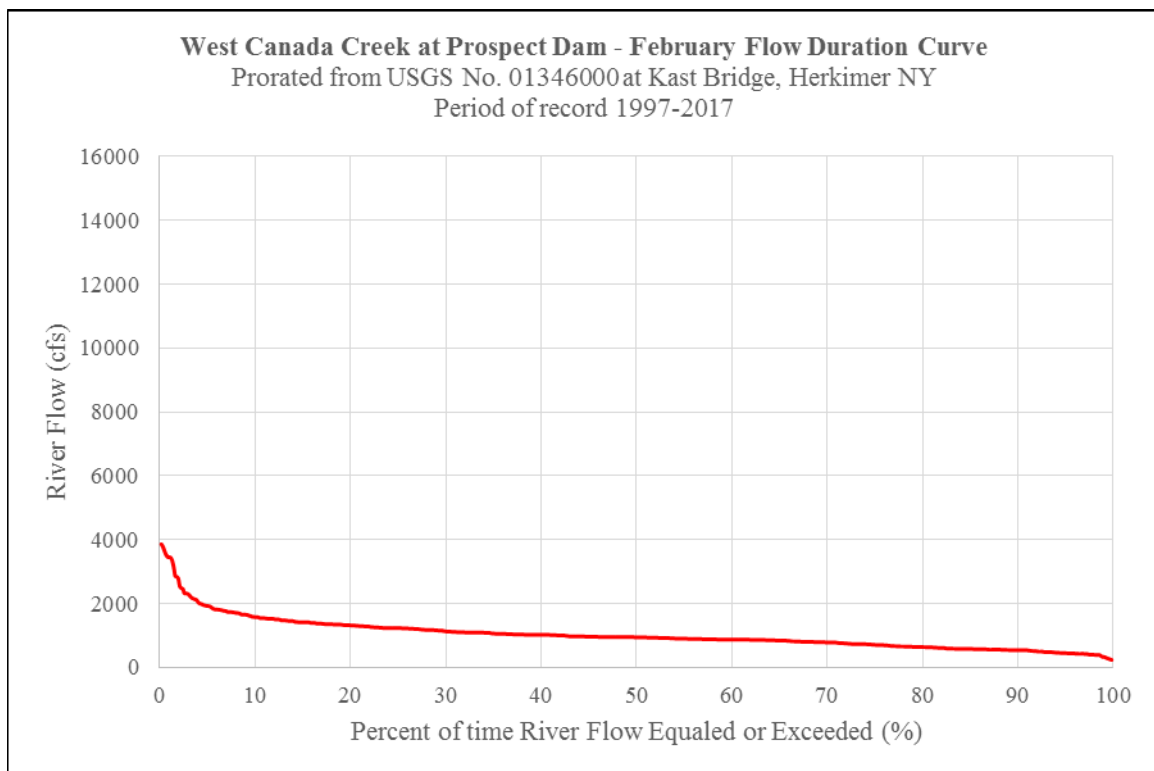
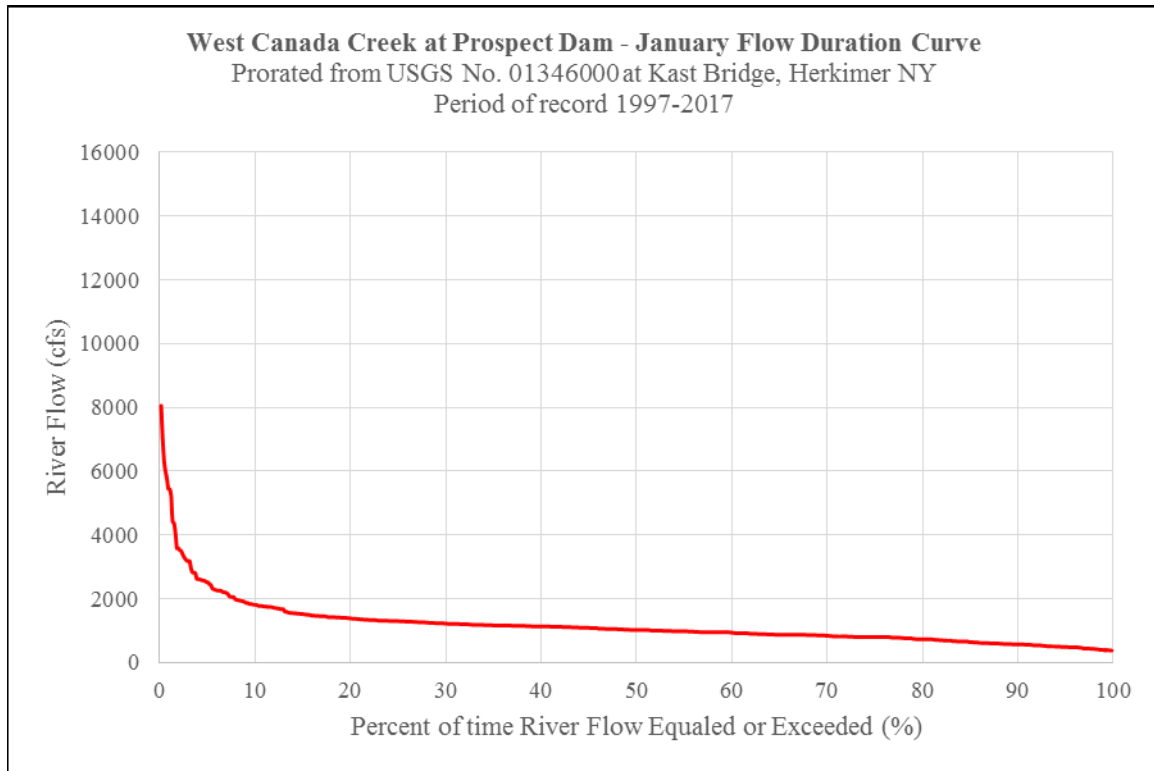
Critical habitats

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

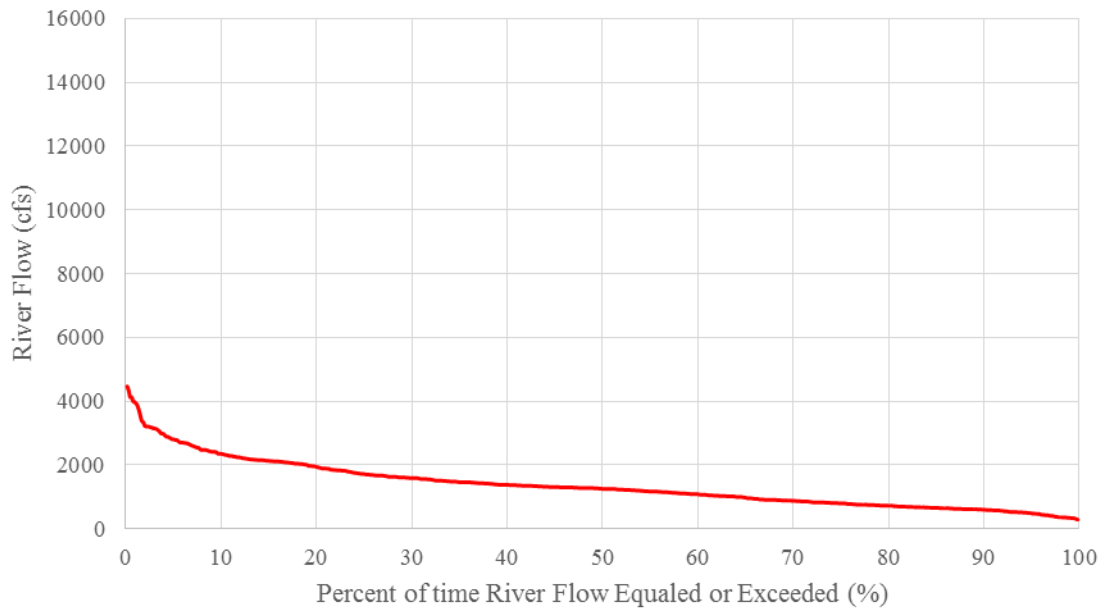
APPENDIX D

MONTHLY FLOW DURATION CURVES

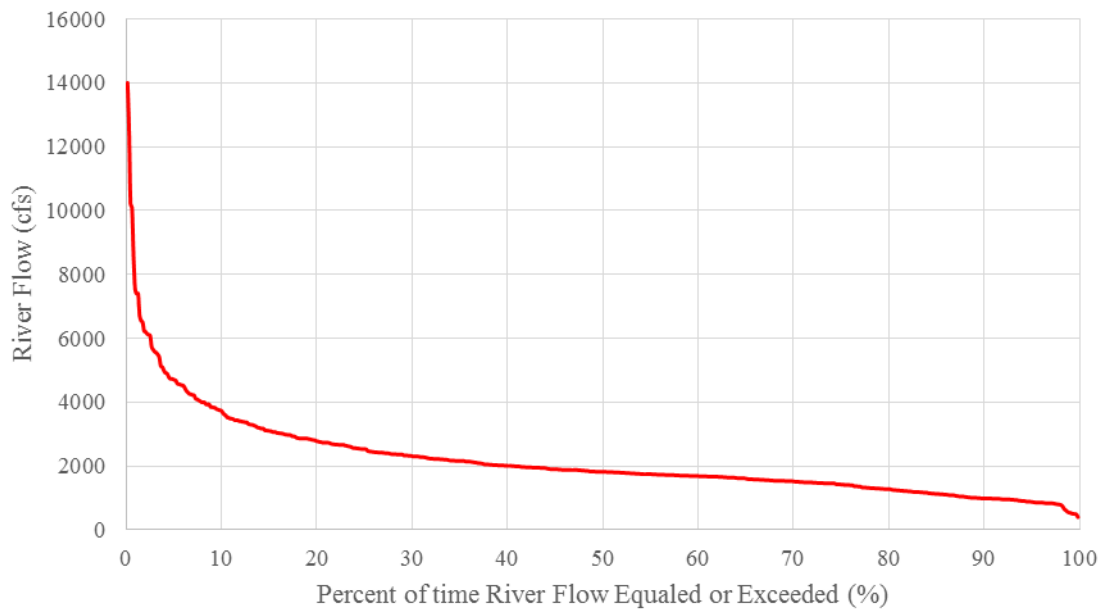
West Canada Creek at Prospect Dam – Flow Duration Curves
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



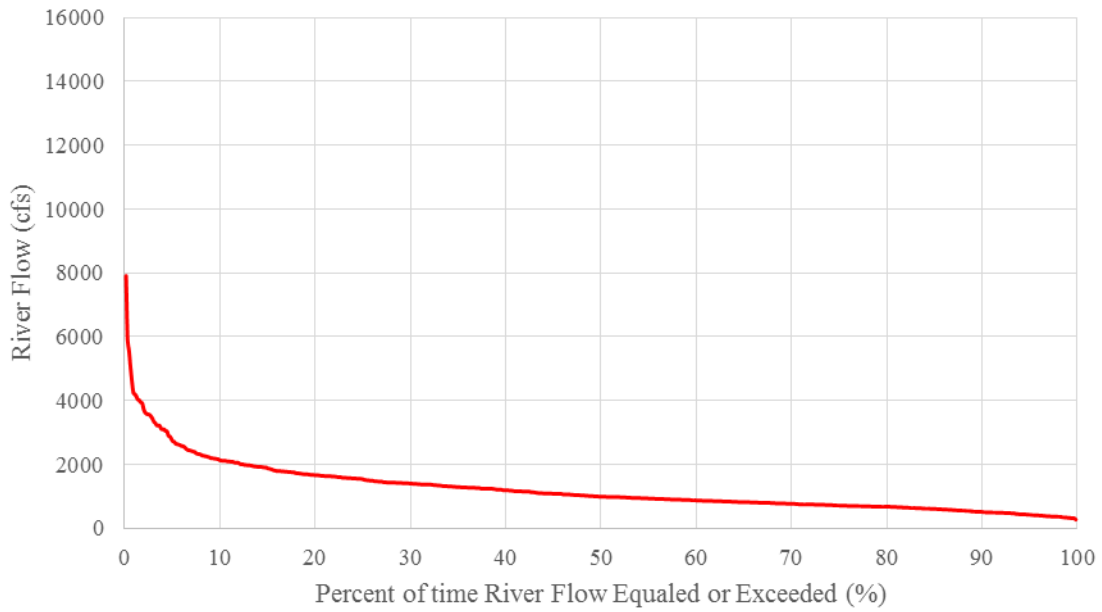
West Canada Creek at Prospect Dam - March Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



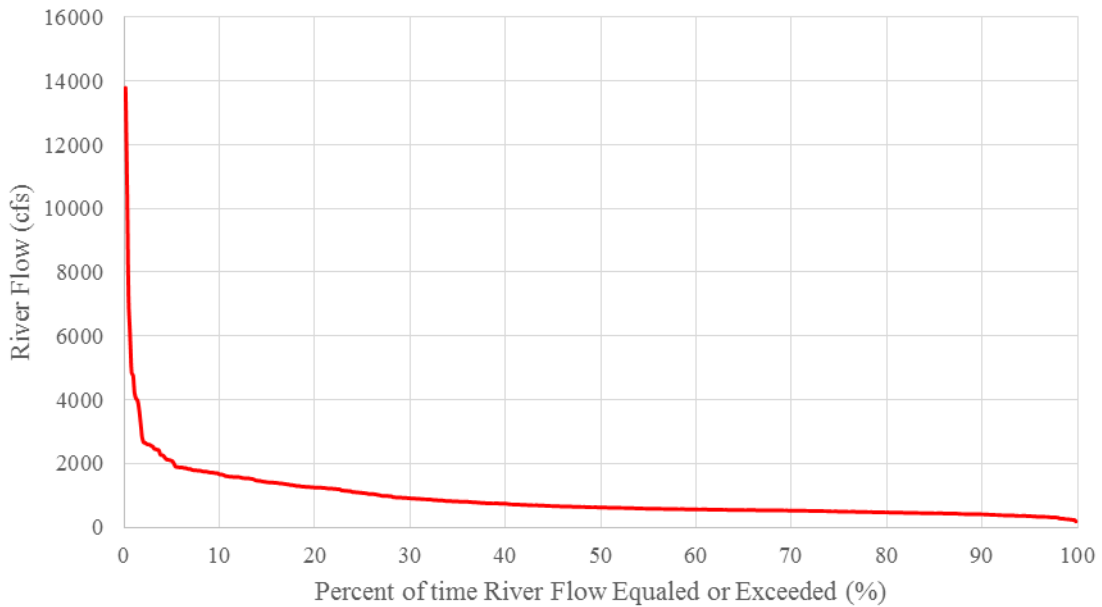
West Canada Creek at Prospect Dam - April Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



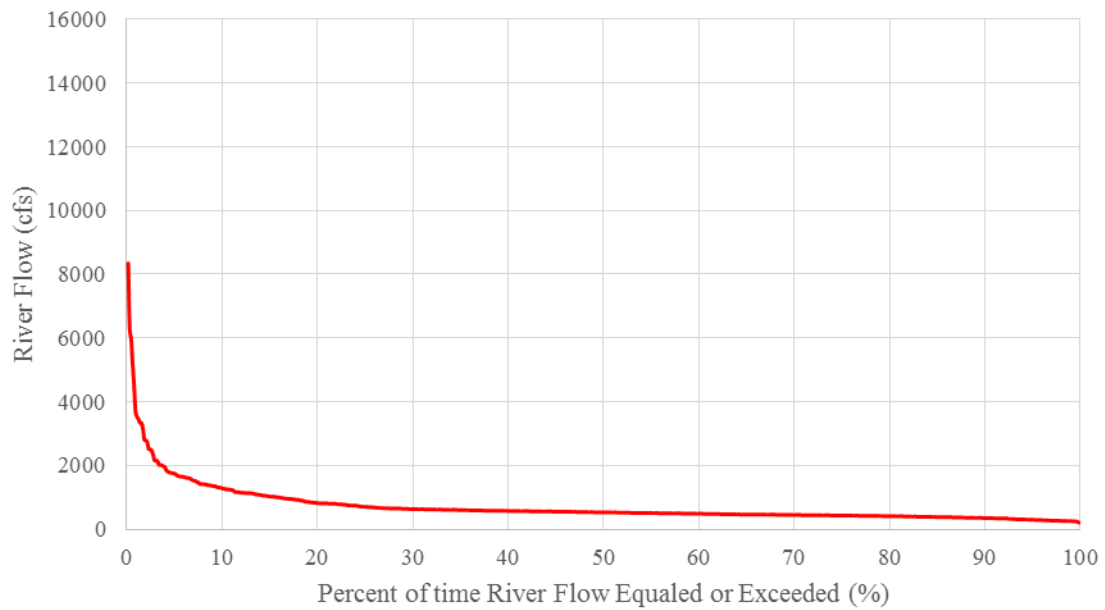
West Canada Creek at Prospect Dam - May Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



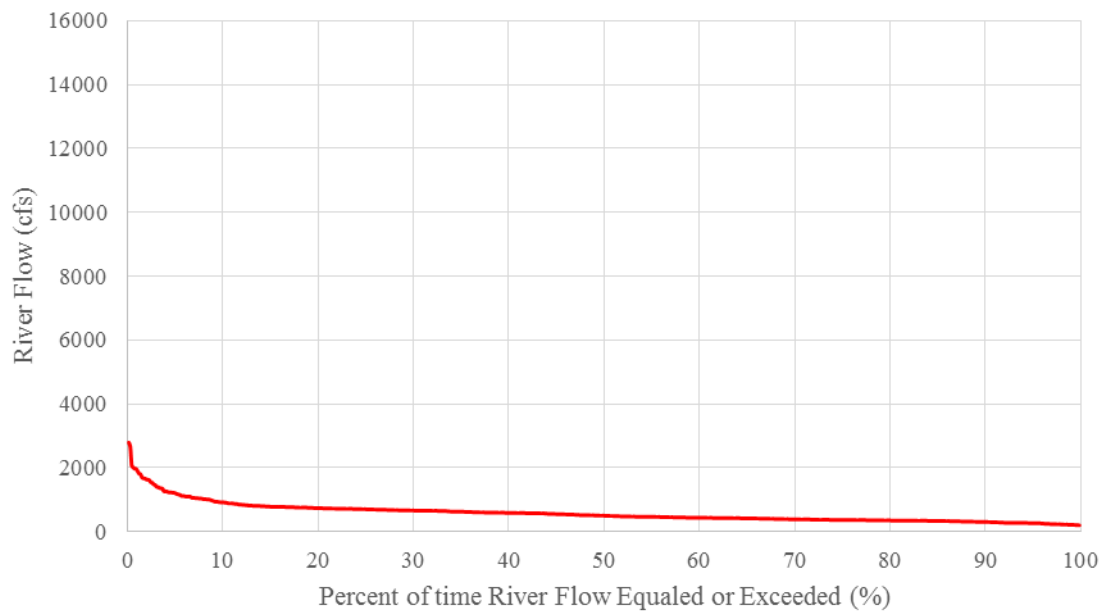
West Canada Creek at Prospect Dam - June Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



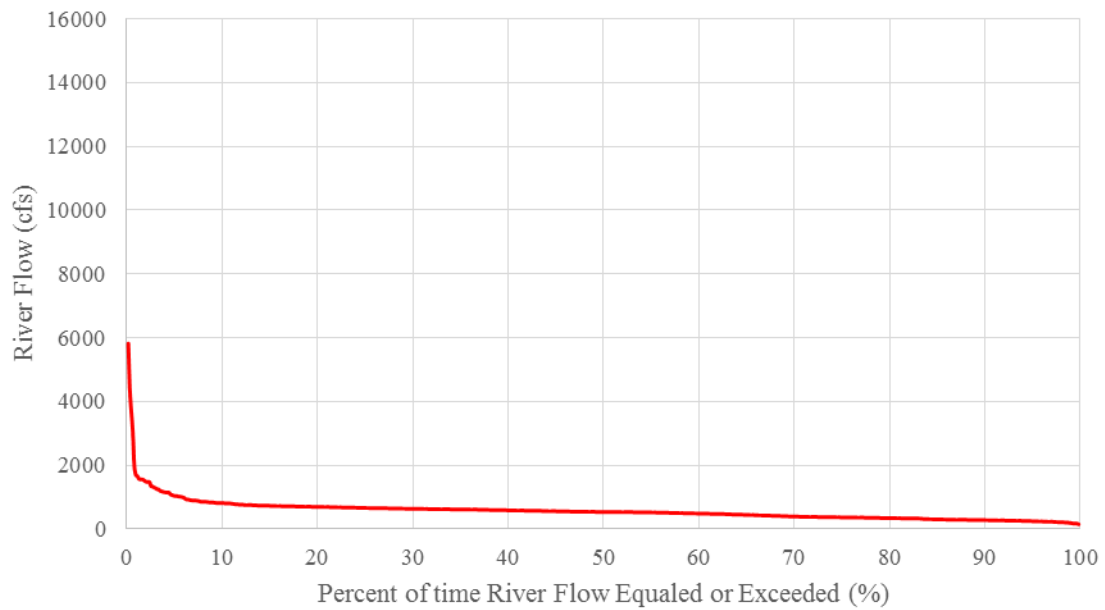
West Canada Creek at Prospect Dam - July Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



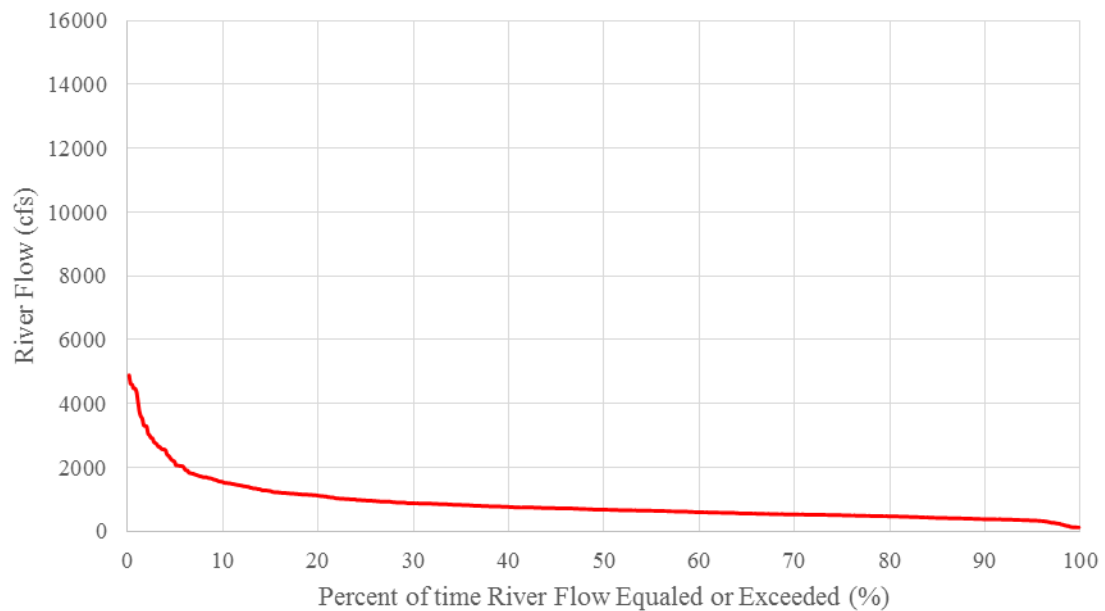
West Canada Creek at Prospect Dam - August Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



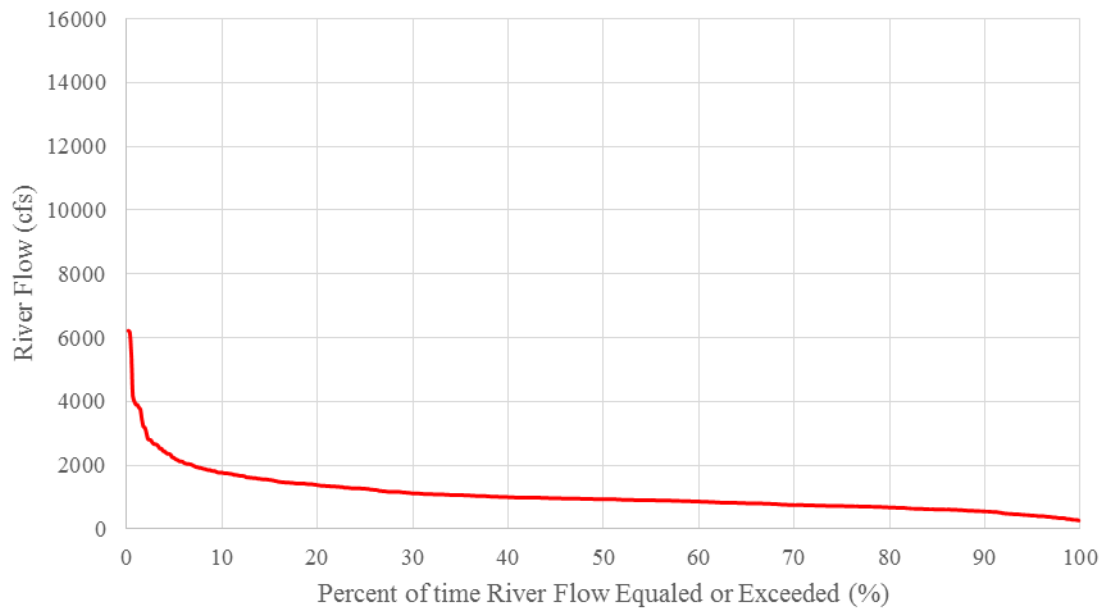
West Canada Creek at Prospect Dam - September Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



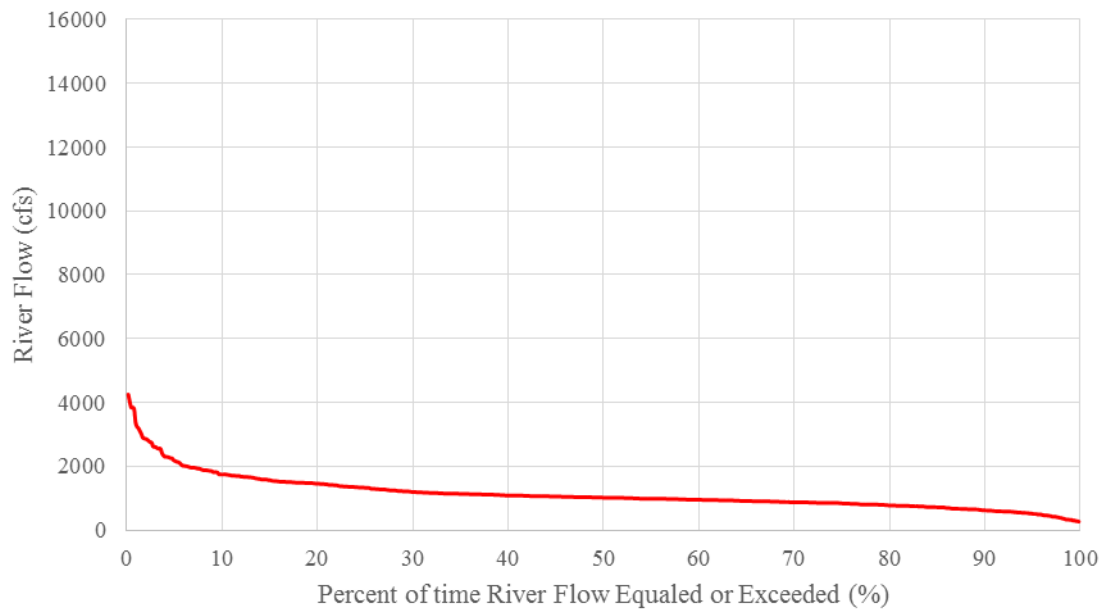
West Canada Creek at Prospect Dam - October Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



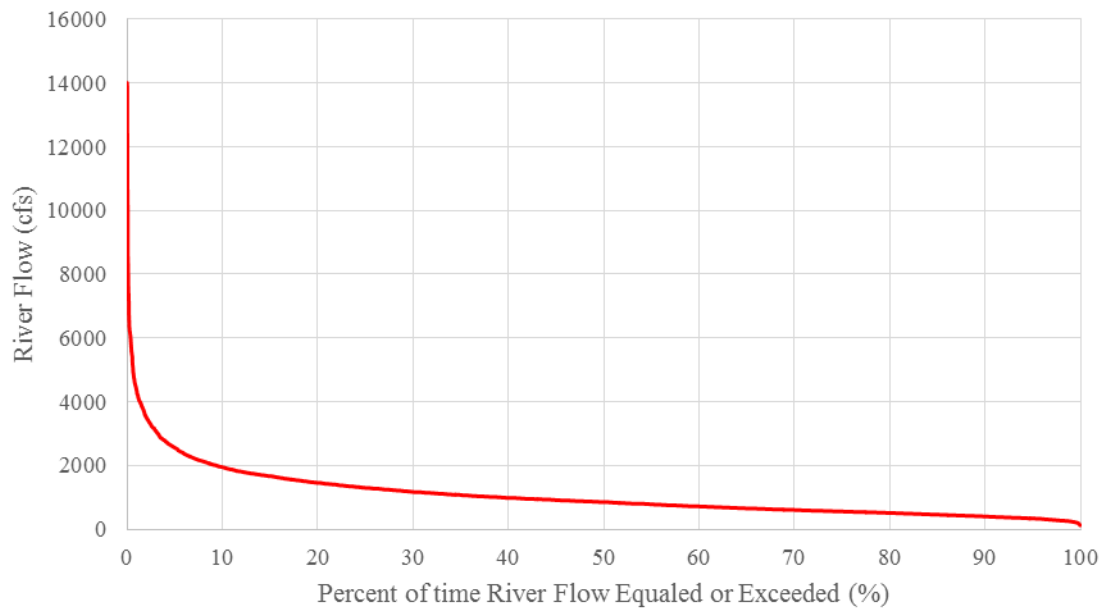
West Canada Creek at Prospect Dam - November Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



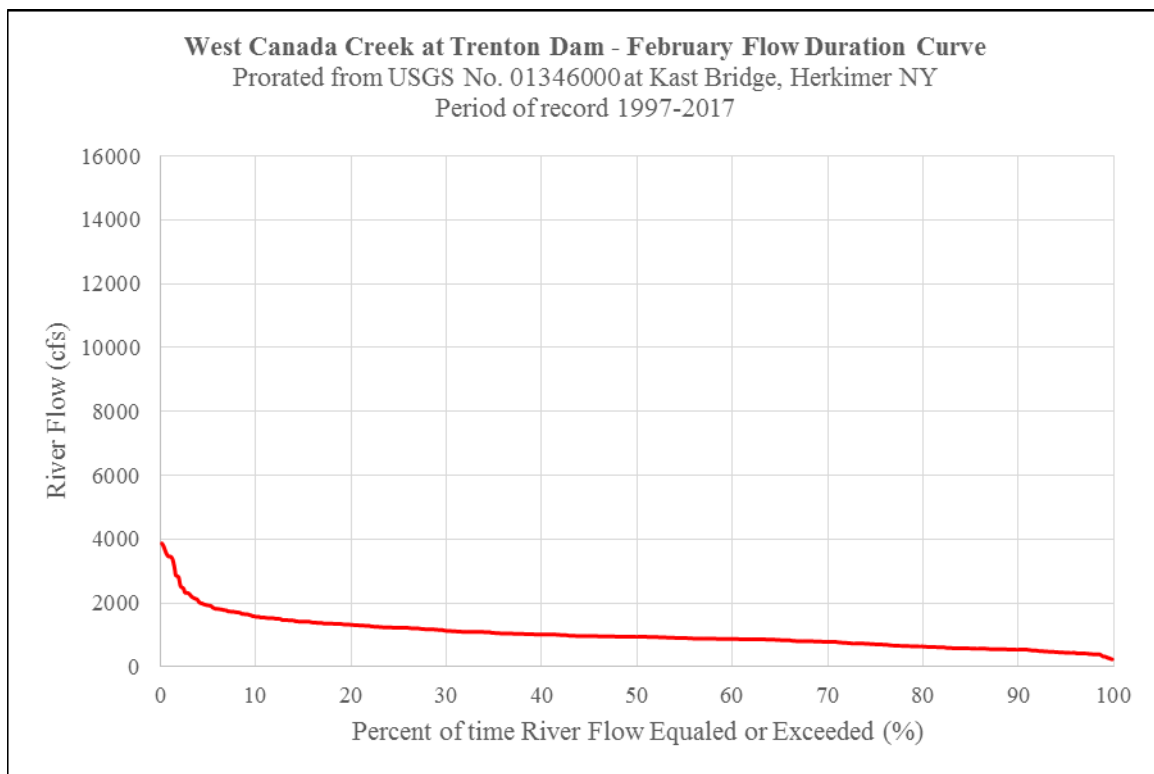
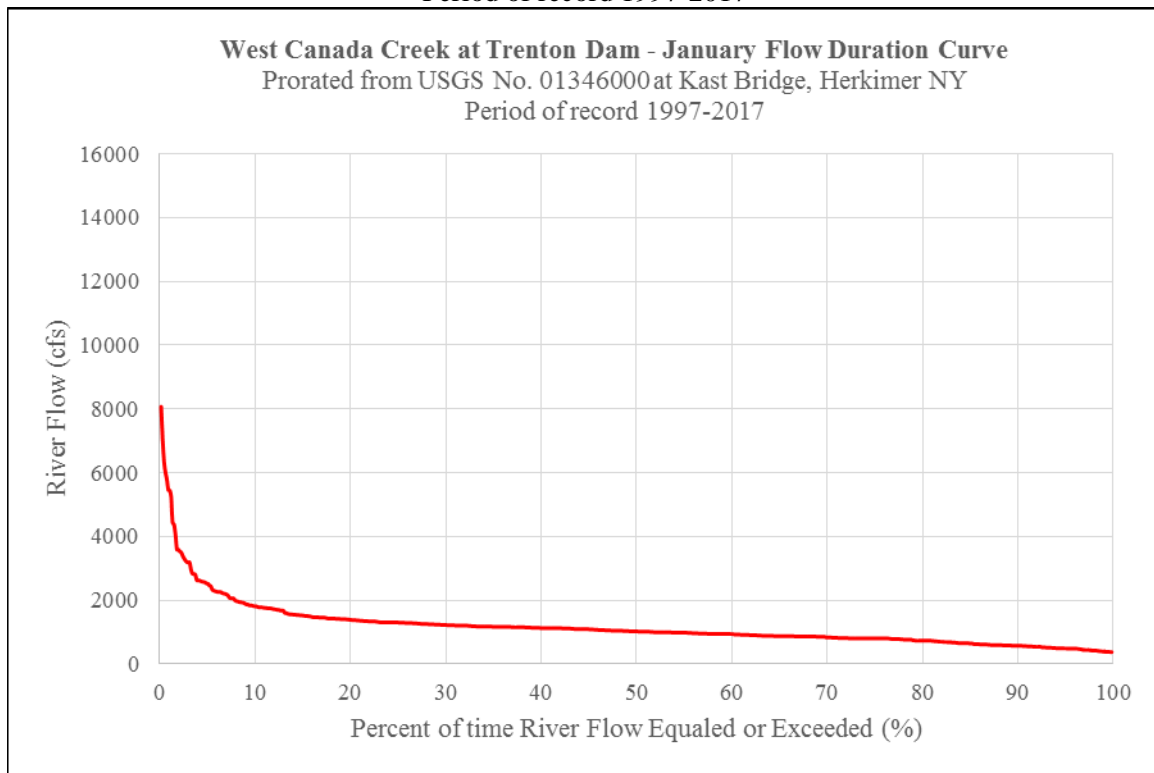
West Canada Creek at Prospect Dam - December Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



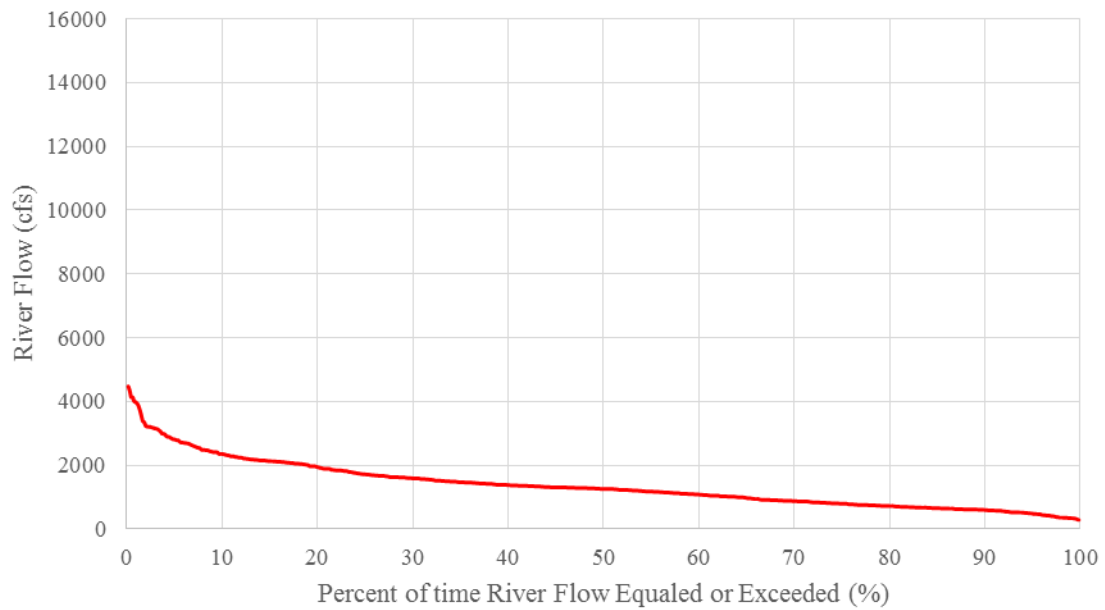
West Canada Creek at Prospect Dam - Annual Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



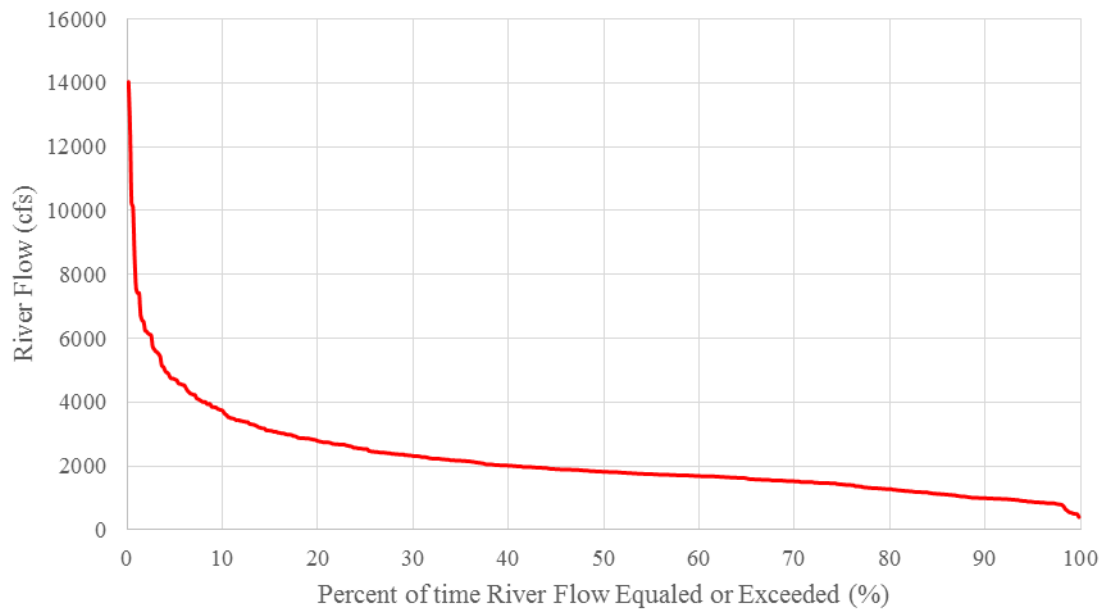
West Canada Creek at Trenton Dam – Flow Duration Curves
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



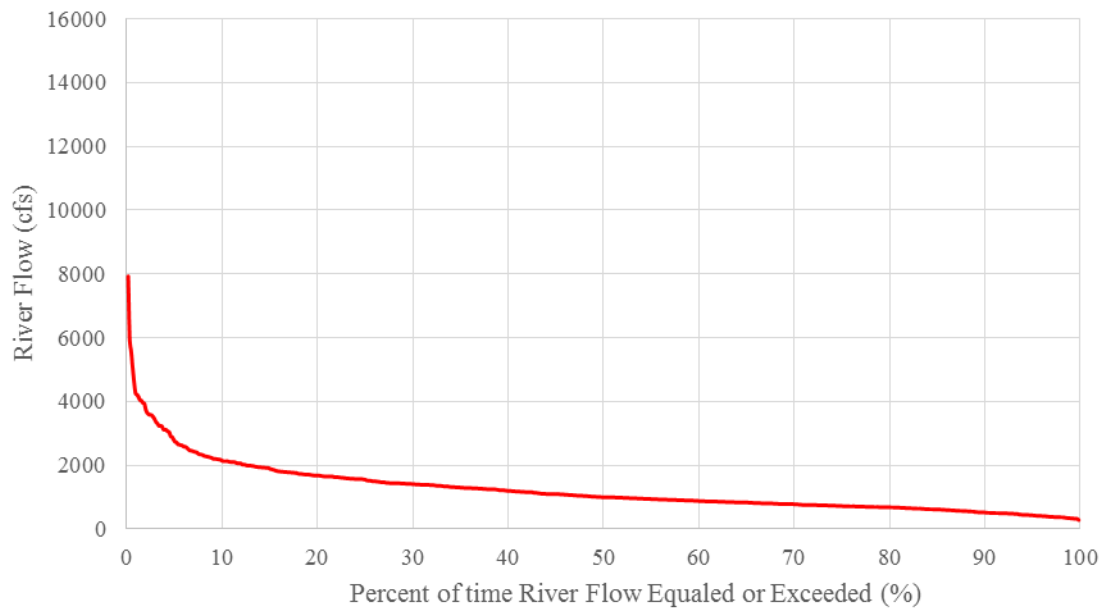
West Canada Creek at Trenton Dam - March Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



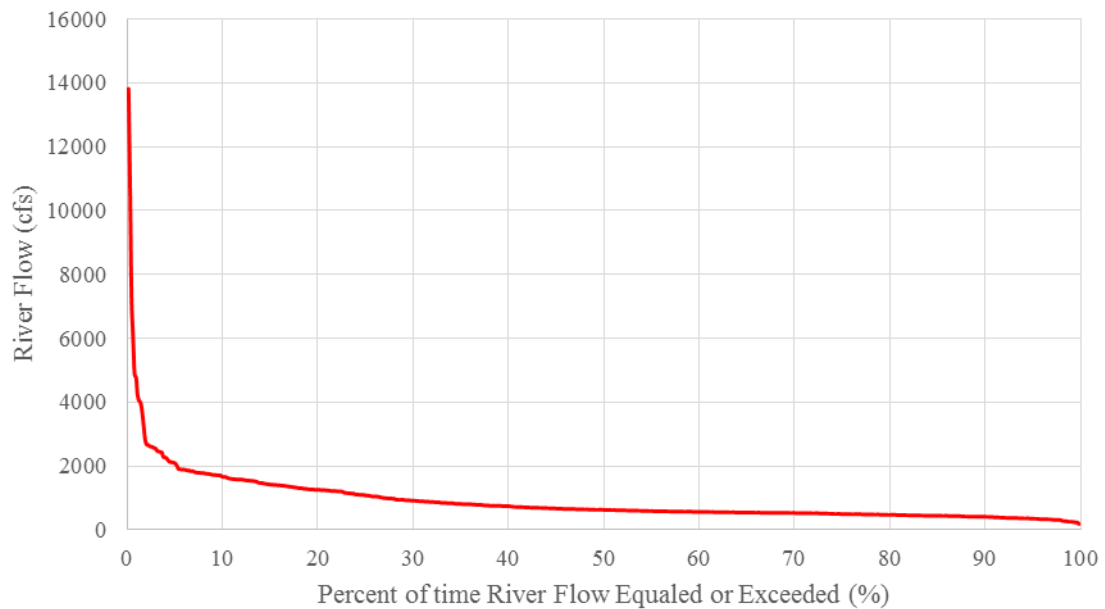
West Canada Creek at Trenton Dam - April Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



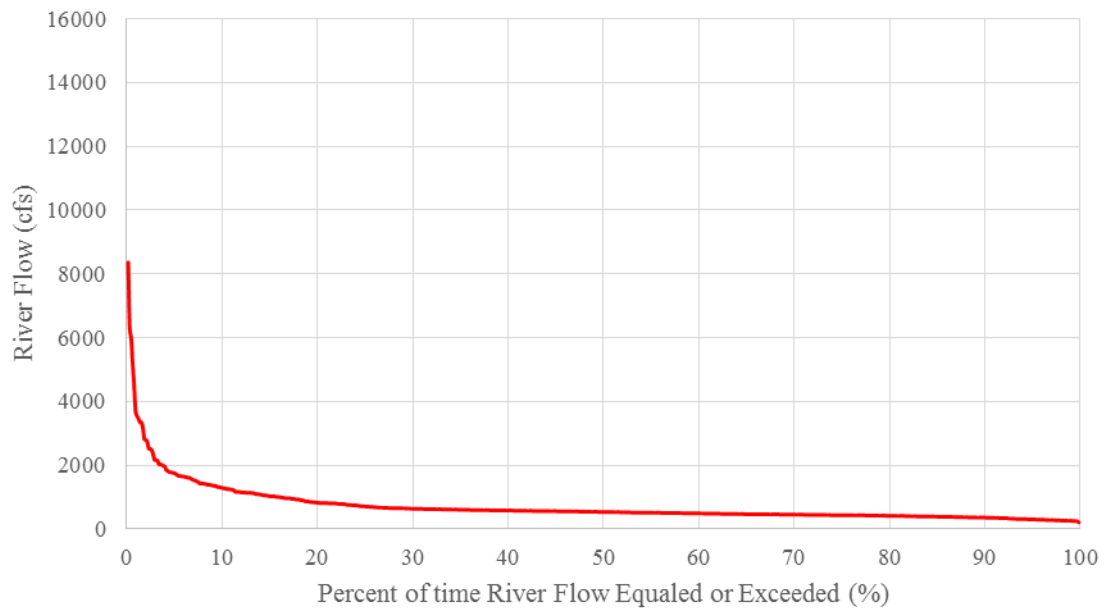
West Canada Creek at Trenton Dam - May Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



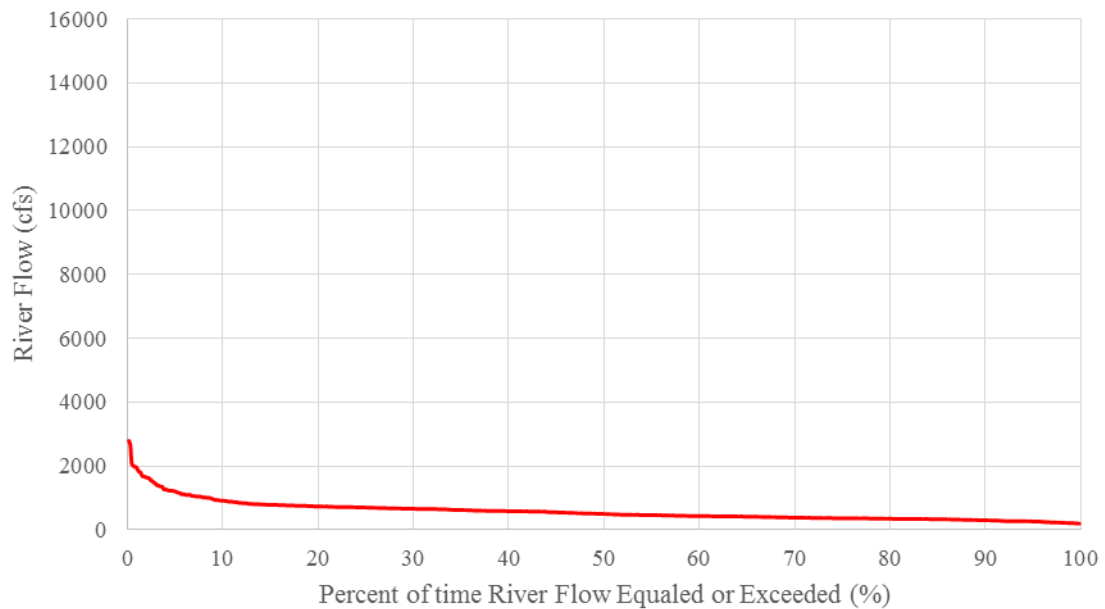
West Canada Creek at Trenton Dam - June Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



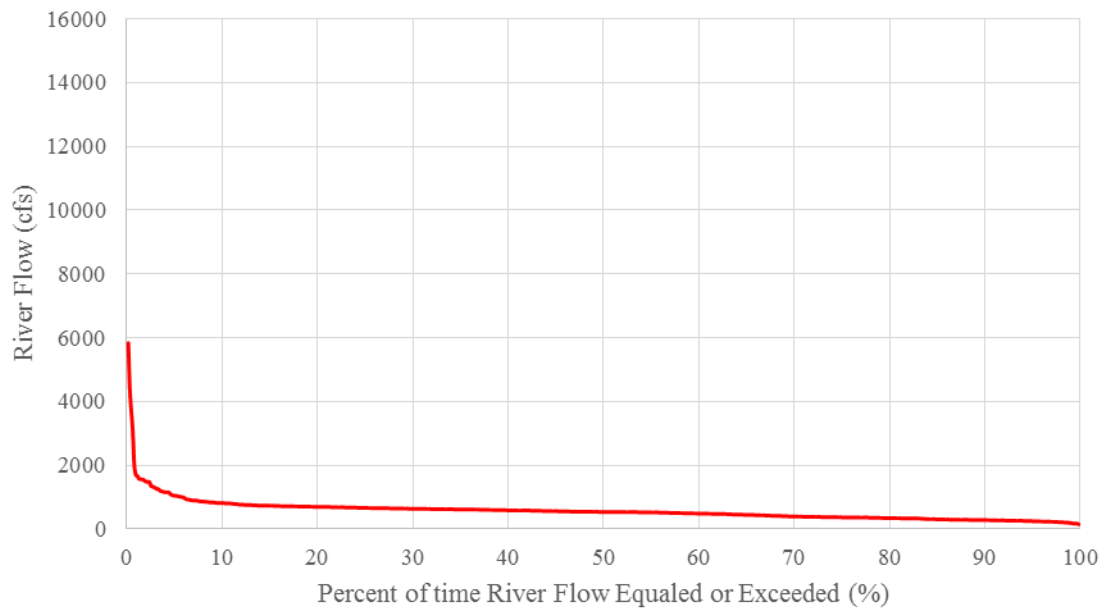
West Canada Creek at Trenton Dam - July Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



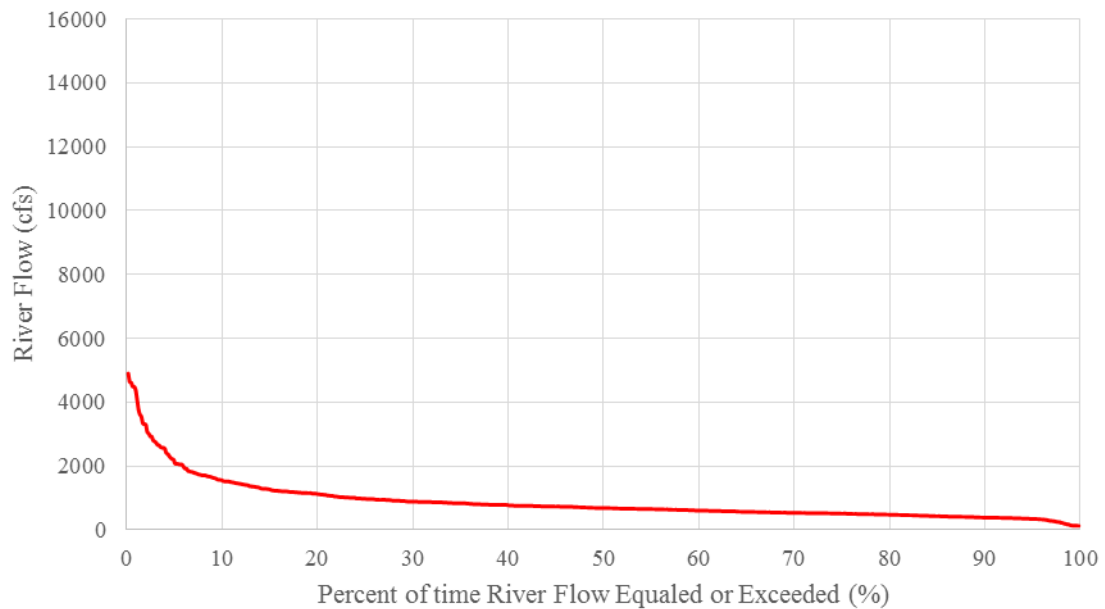
West Canada Creek at Trenton Dam - August Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



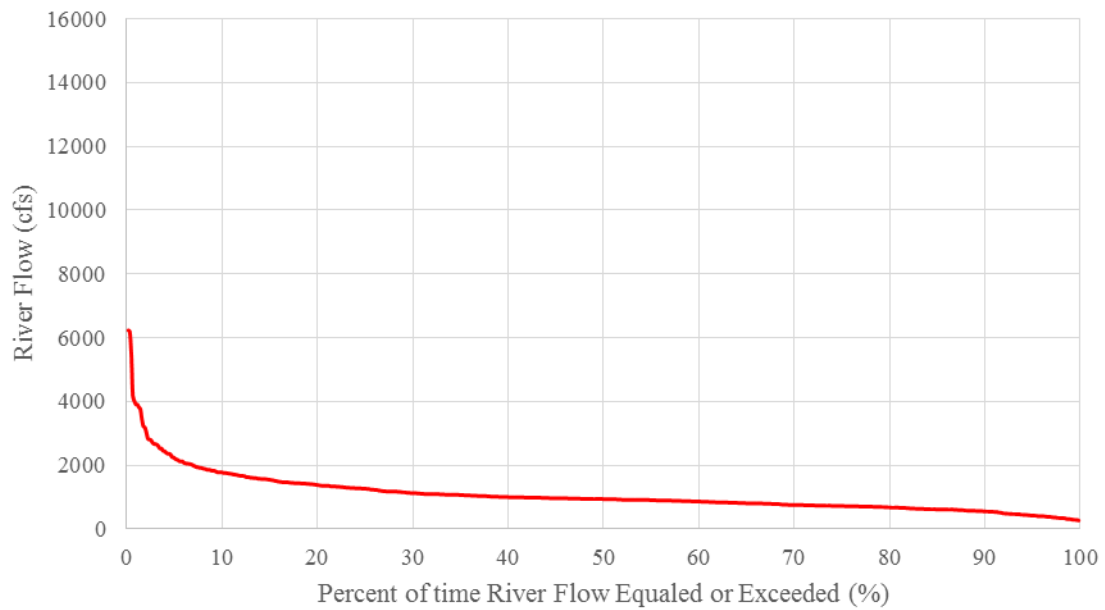
West Canada Creek at Trenton Dam - September Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



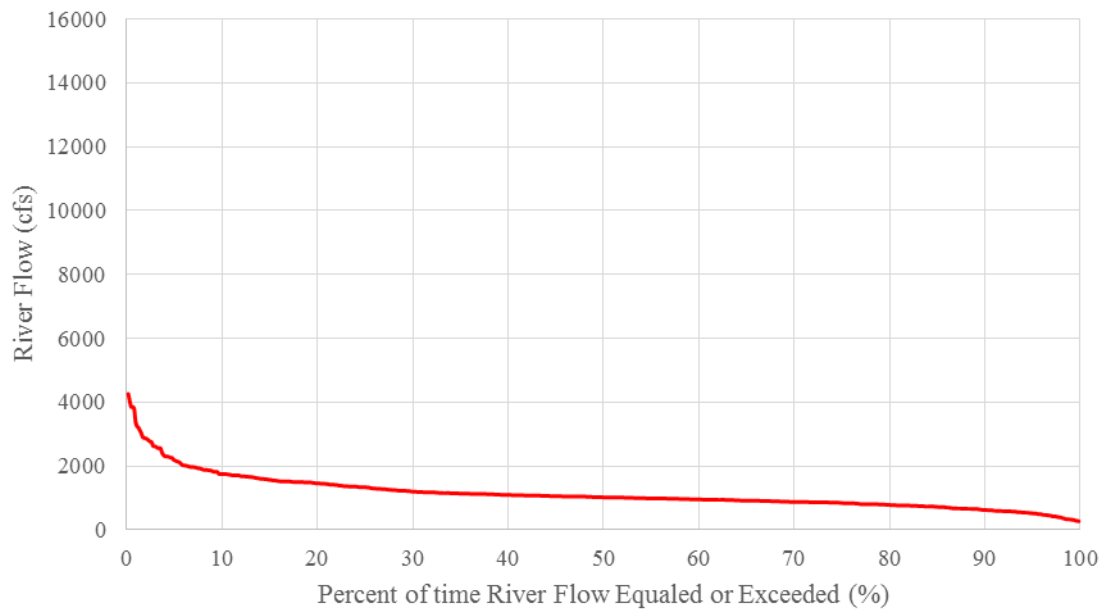
West Canada Creek at Trenton Dam - October Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



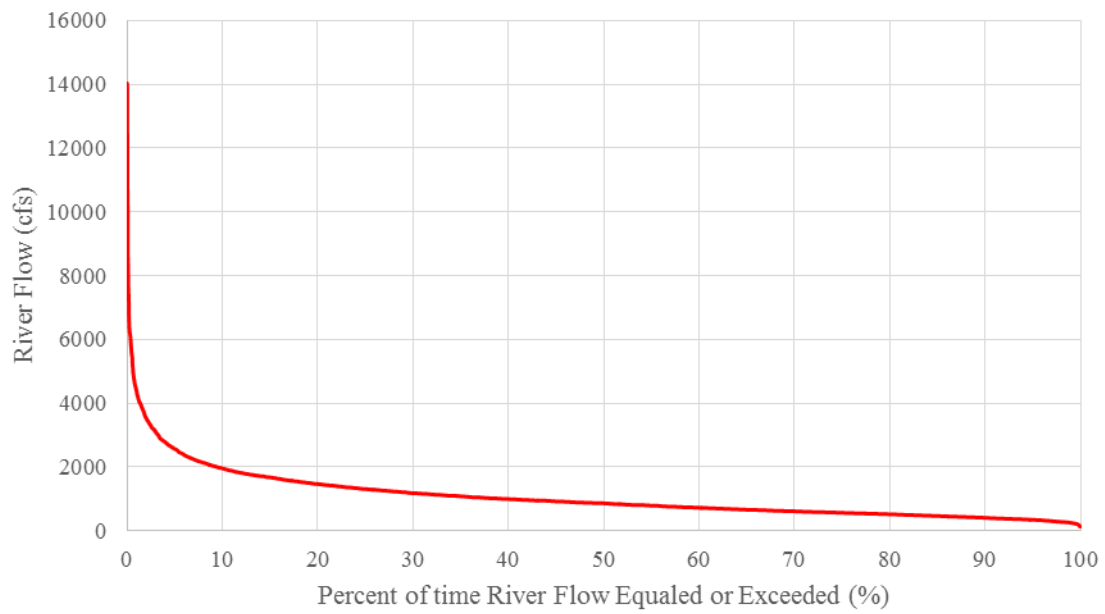
West Canada Creek at Trenton Dam - November Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017



West Canada Creek at Trenton Dam - December Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017

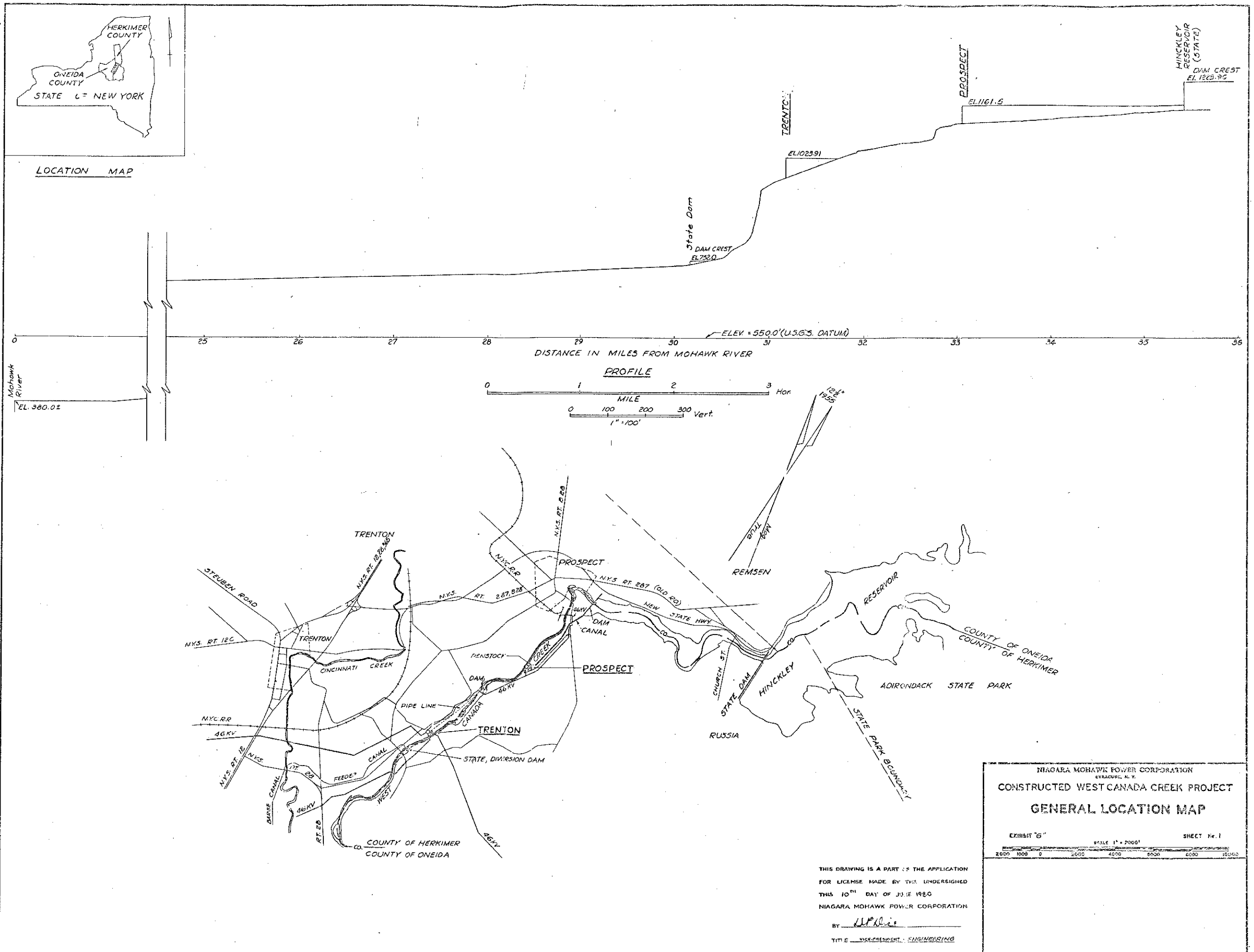


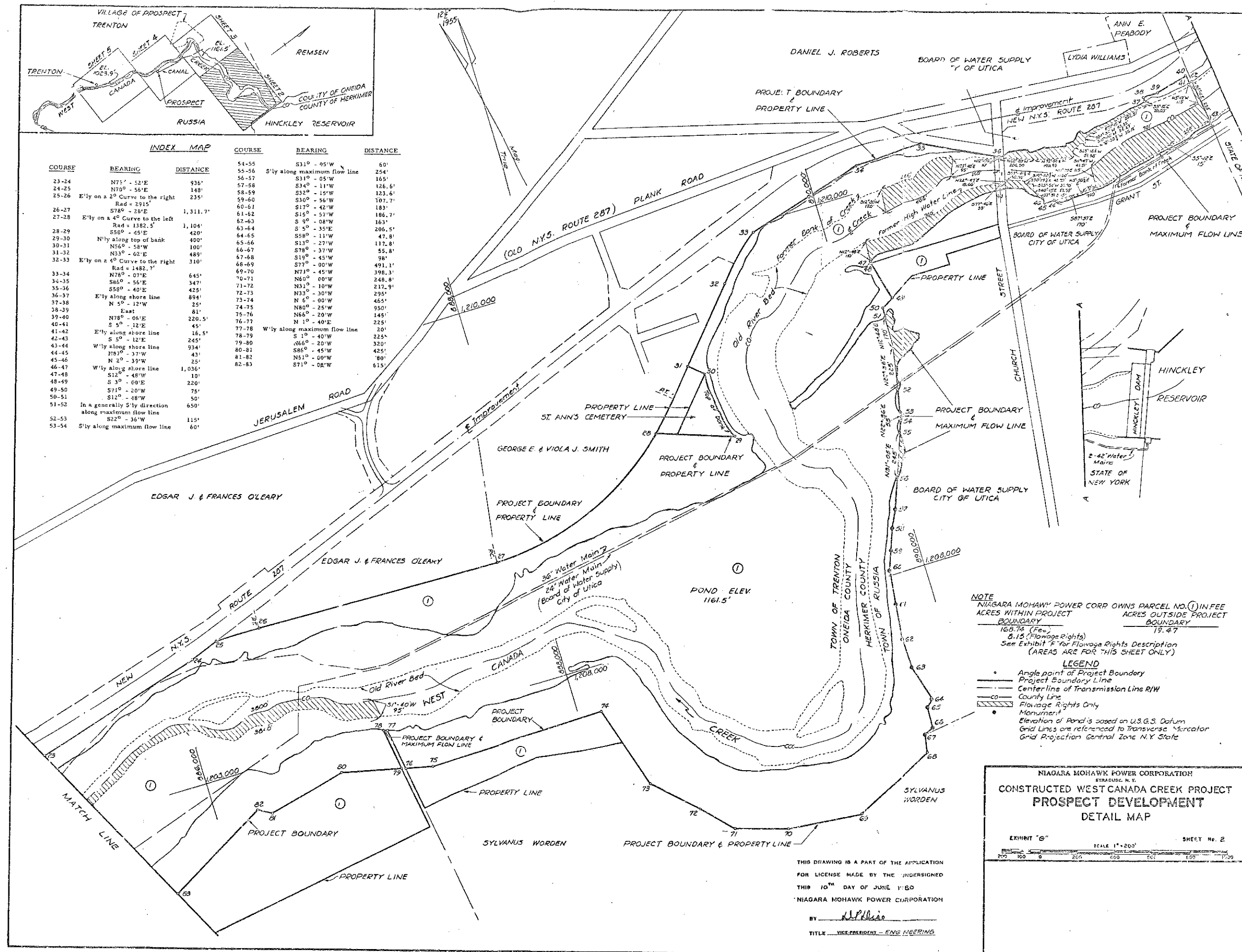
West Canada Creek at Trenton Dam - Annual Flow Duration Curve
Prorated from USGS No. 01346000 at Kast Bridge, Herkimer NY
Period of record 1997-2017

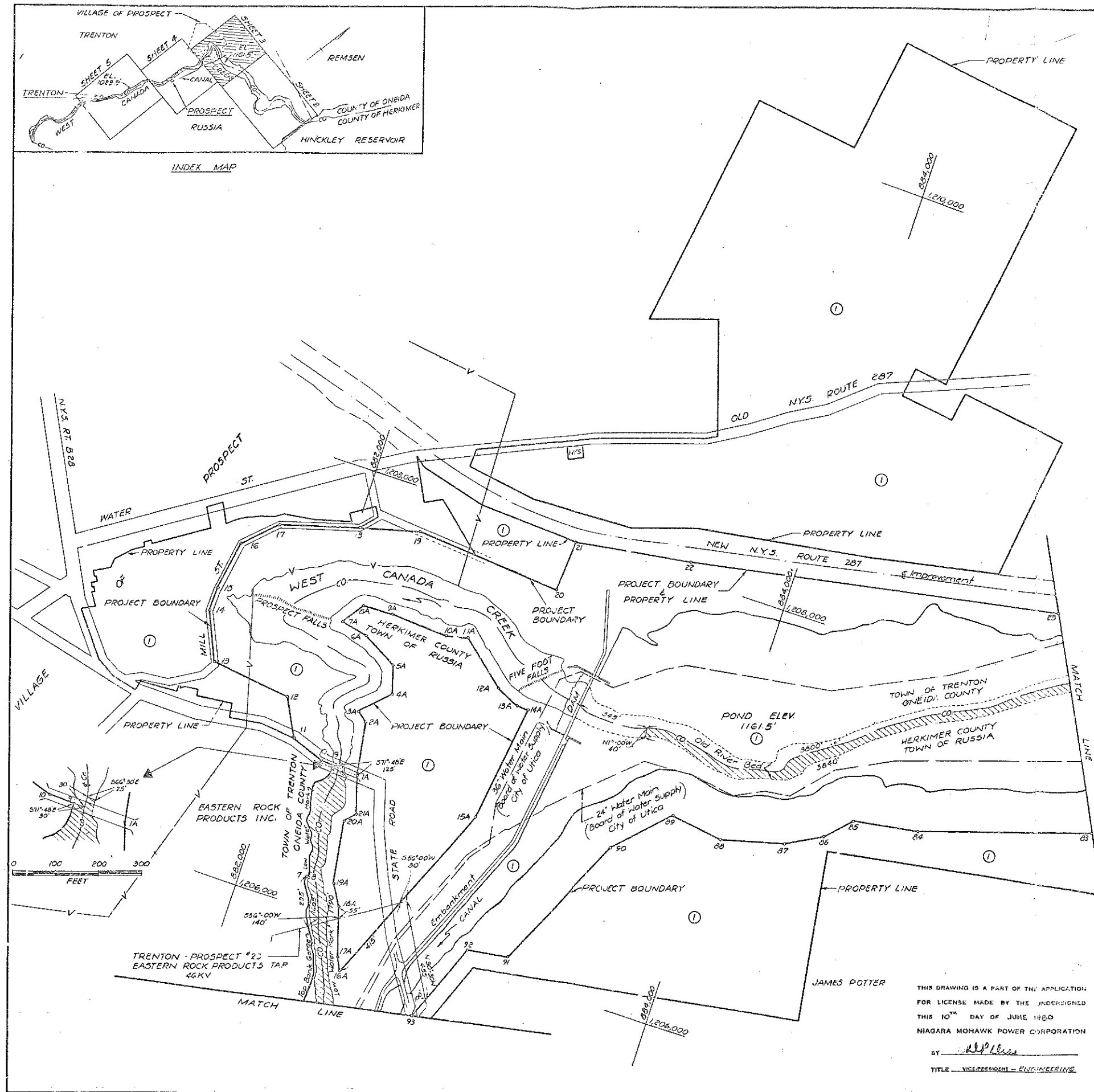


APPENDIX E

EXISTING EXHIBIT G – PROJECT BOUNDARY







COURSE	BEARING	DISTANCE
7-8	S55° - 30'E	19'
8-9	N71° - 48'W	570'
9-10	N55° - 45'W	114.6'
10-11	N13° - 15'W	195'
11-12	N68° - 30'W	370'
12-13	N10° - 40'W	240'
13-14	N15° - 35'E	110'
14-15	N22° - 45'E	230'
15-16	N59° - 30'E	195'
16-17	N87° - 30'E	365'
17-18	N89° - 05'E	280'
18-19	S71° - 20'E	685'
19-20	N18° - 40'E	240'
20-21	N82° - 07'E	550'
21-22	N80° - 15'E	1,701'
22-23		

COURSE	BEARING	DISTANCE
1A-2A	N 0° - 50'E	250'
2A-3A	N42° - 20'W	60'
3A-4A	N55° - 20'E	175'
4A-5A	N 6° - 00'W	135'
5A-6A	N51° - 00'W	185'
6A-7A	N67° - 40'W	125'
7A-8A	N44° - 25'E	120'
8A-9A	S81° - 30'E	140'
9A-10A	S76° - 10'E	270'
10A-11A	N87° - 45'E	100'
11A-12A	S39° - 40'E	275'
12A-13A	S54° - 40'E	115'
13A-14A	S76° - 30'E	55'
14A-15A	S18° - 00'W	550'
15A-16A	S33° - 10'W	945'
16A-17A	N16° - 00'W	65'
17A-18A	N 7° - 15'W	235'
18A-19A	N20° - 50'W	110'
19A-20A	N 0° - 55'E	290'
20A-21A	N52° - 45'E	65'
21A-1A	N 6° - 30'W	175'

NOTE
NIAGARA MOHAWK POWER CORP OWNS PARCEL NO. ① INFEET
ACRES WITHIN PROJECT BOUNDARY 104.32 (Fee)
ACRES OUTSIDE PROJECT BOUNDARY 135.90
4.00 (Flowage Rights)
See Exhibit F for Flowage Rights Description
(AREAS ARE FOR THIS SHEET ONLY)

LEGEND
• Angle point of Project Boundary
— Project Boundary Line
— Centerline of Transmission Line R/W
— County Line
— Flowage Rights Only
• Monument
Elevation of Pond is based on U.S.G.S. Datum
Grid Lines are referenced to Transverse Mercator
Grid Projection Central Zone N.Y. State

NIAGARA MOHAWK POWER CORPORATION
SYRACUSE, N. Y.

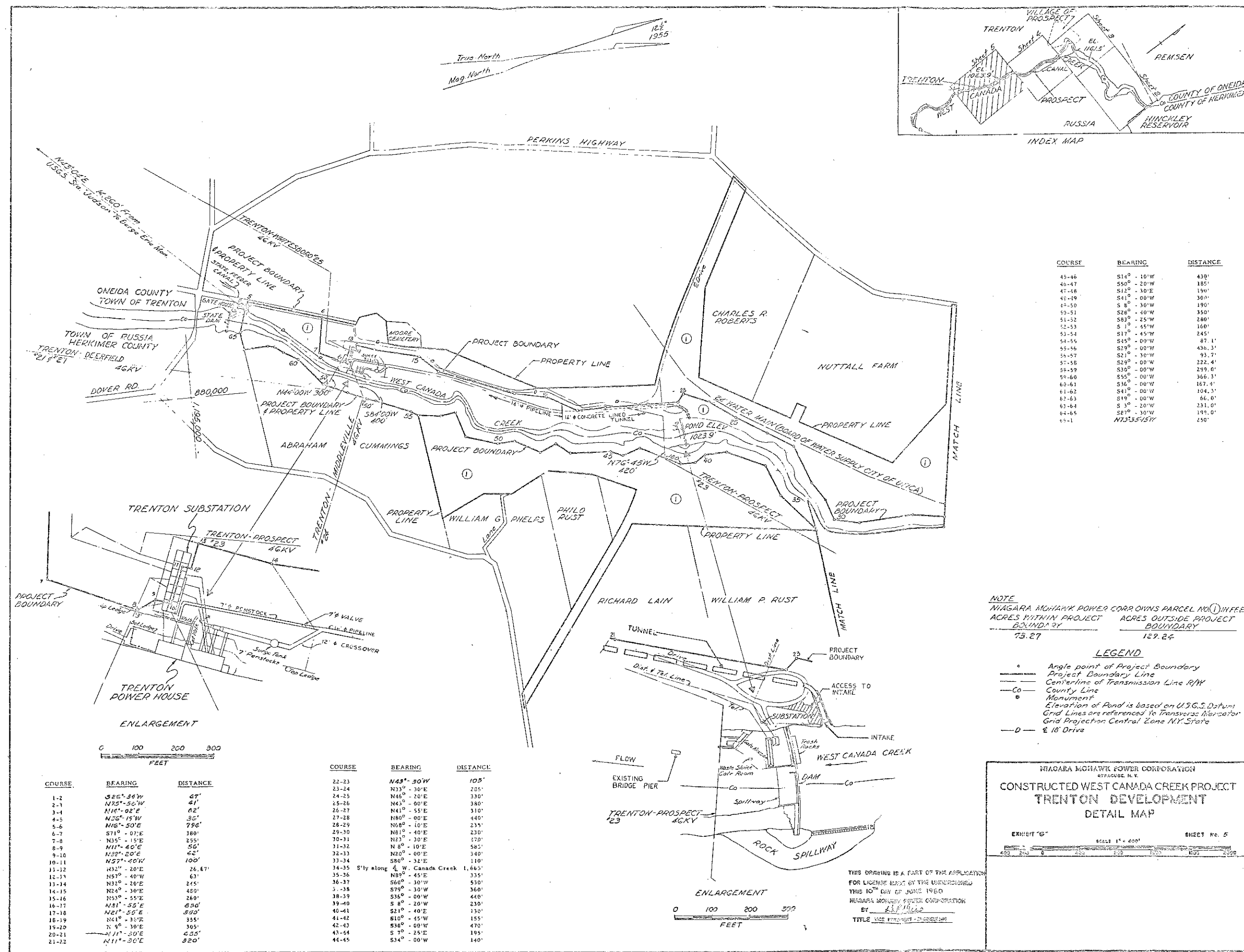
CONSTRUCTED WEST CANADA CREEK PROJECT
PROSPECT DEVELOPMENT
DETAIL MAP

EXHIBIT "G" SCALE 1" = 200'

200 100 0 100 200 300 400 500 600 700 800 900 1000

SHEET No. 3

THIS DRAWING IS A PART OF THE APPLICATION
FOR LICENSE MADE BY THE UNDERSIGNED
THIS 10TH DAY OF JUNE 1960
NIAGARA MOHAWK POWER CORPORATION
BY W. P. L. L.
TITLE VICE-PRESIDENT - ENGINEERING



COURSE	BEARING	DISTANCE
45-46	S14° - 10'W	430'
46-47	S50° - 20'W	185'
47-48	S11° - 30'E	190'
48-49	S41° - 00'W	300'
49-50	S 0° - 30'W	190'
50-51	S28° - 40'W	350'
51-52	S83° - 25'W	280'
52-53	S 1° - 45'W	160'
53-54	S17° - 45'W	245'
54-55	S45° - 09'W	87.1'
55-56	S29° - 00'W	436.3'
56-57	S21° - 30'W	93.7'
57-58	S29° - 00'W	222.4'
58-59	S30° - 00'W	299.0'
59-60	S55° - 00'W	366.3'
60-61	S16° - 00'W	167.4'
61-62	S41° - 00'W	104.3'
62-63	S19° - 00'W	66.0'
63-64	S 5° - 20'W	231.0'
64-65	S83° - 30'W	190.0'
65-1	N73°35'15"W	250'

NOTE
NIAGARA MOHAWK POWER CORP OWNS PARCEL NO. 1 IN FEE
ACRES WITHIN PROJECT ACRES OUTSIDE PROJECT
BOUNDARY BOUNDARY
73.27 129.24

- LEGEND
- Angle point of Project Boundary
 - Project Boundary Line
 - Centerline of Transmission Line R/W
 - Co County Line
 - Monument
 - Elevation of Pond is based on U.S.C.S. Datum
 - Grid Lines are referenced to Transverse Meridian
 - Grid Projection Central Zone N.Y. State
 - D — 18' Drive

COURSE	BEARING	DISTANCE
1-2	S25° - 36'W	67'
2-3	N72° - 56'W	41'
3-4	N14° - 02'E	42'
4-5	N36° - 15'W	35'
5-6	N16° - 50'E	796'
6-7	S71° - 07'E	380'
7-8	N35° - 15'E	255'
8-9	N11° - 40'E	56'
9-10	N32° - 50'E	62'
10-11	N52° - 50'W	100'
11-12	N32° - 20'E	26.47'
12-13	N57° - 40'W	63'
13-14	N32° - 20'E	245'
14-15	N24° - 30'E	480'
15-16	N53° - 55'E	260'
16-17	N51° - 55'E	820'
17-18	N21° - 55'E	390'
18-19	N41° - 35'E	385'
19-20	N 9° - 30'E	305'
20-21	N11° - 30'E	435'
21-22	N11° - 30'E	320'

COURSE	BEARING	DISTANCE
22-23	N45° - 30'W	105'
23-24	N33° - 30'E	205'
24-25	N45° - 20'E	330'
25-26	N45° - 00'E	380'
26-27	N41° - 55'E	310'
27-28	N80° - 00'E	440'
28-29	N68° - 10'E	235'
29-30	N81° - 40'E	230'
30-31	N23° - 30'E	170'
31-32	N 8° - 10'E	585'
32-33	N20° - 00'E	340'
33-34	S80° - 32'E	110'
34-35	S1y along W. Canada Creek	1.665'
35-36	N89° - 45'E	335'
36-37	S60° - 30'W	530'
37-38	S79° - 30'W	360'
38-39	S36° - 00'W	440'
39-40	S 8° - 20'W	230'
40-41	S21° - 40'E	130'
41-42	S10° - 45'W	155'
42-43	S38° - 00'W	470'
43-44	S 7° - 25'E	195'
44-45	S34° - 00'W	140'

NIAGARA MOHAWK POWER CORPORATION
CONSTRUCTED WEST CANADA CREEK PROJECT
TRENTON DEVELOPMENT
DETAIL MAP

EXHIBIT "G" SCALE 1" = 400' SHEET No. 5

0 100 200 300 FEET

THIS DRAWING IS A PART OF THE APPLICATION FOR LICENSE MADE BY THE UNDERSIGNED THIS 10th DAY OF JUNE 1960
NIAGARA MOHAWK POWER CORPORATION
BY ALFRED J. HARRIS
TITLE SEE EXHIBIT - 20000000

VOLUME II

APPENDIX F

CEII MATERIALS

(THIS MATERIAL IS CRITICAL ENERGY INFRASTRUCTURE INFORMATION (CEII)).
MEMBERS OF THE PUBLIC MAY OBTAIN NONPUBLIC OR PRIVILEGED INFORMATION BY SUBMITTING
A FREEDOM OF INFORMATION ACT (FOIA) REQUEST.
SEE WWW.FERC.GOV/LEGAL/CEII-FOIA.ASP FOR MORE INFORMATION.)