

FINAL LICENSE APPLICATION

Volume IV of V

RIPOGENUS HYDROELECTRIC PROJECT (FERC NO. 2572) PENOBSCOT MILLS HYDROELECTRIC PROJECT (FERC NO. 2458)



GREAT LAKES HYDRO AMERICA, LLC
Millinocket, Maine

September 30, 2024

RIPOGENUS HYDROELECTRIC PROJECT (FERC NO. 2572)
PENOBSCOT MILLS HYDROELECTRIC PROJECT (FERC NO. 2458)

FINAL LICENSE APPLICATION
Volume IV of V

EXHIBIT F	GENERAL DESIGN DRAWINGS
EXHIBIT G	PROJECT MAPS
EXHIBIT H	DESCRIPTION OF PROJECT MANAGEMENT AND NEED FOR POWER

FINAL LICENSE APPLICATION

EXHIBIT F GENERAL DESIGN DRAWINGS

**RIPOGENUS HYDROELECTRIC PROJECT (FERC NO. 2572)
PENOBSCOT MILLS HYDROELECTRIC PROJECT (FERC NO. 2458)**



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EXHIBIT F – GENERAL DESIGN DRAWINGS

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Exhibit F

General Design Drawings (18 CFR §4.51(g))

1.0 Exhibit F Drawings

Enclosed are the General Design Drawings for the Ripogenus Hydroelectric Project (FERC No. 2572) and the Penobscot Mills Hydroelectric Project (FERC No. 2458) (Projects). In accordance with Title 18 of the Code of Federal Regulations (CFR) Part 388, Great Lakes Hydro America, LLC (GLHA), the Licensee of the Projects, is requesting that the General Design Drawings for the Projects be given privileged treatment because the drawings contain Controlled Unclassified Information (CUI) and Critical Energy/Electric Infrastructure Information (CEII). Therefore, in conjunction with filing this License Application, the Exhibit F General Design Drawings are being filed with the Federal Energy Regulatory Commission (“FERC” or “Commission”) as CUI//CEII.

2.0 Supporting Design Report

Pursuant to 18 CFR §4.41(g)(3) and (4), an applicant for a new license is required to file with the Commission two copies of a Supporting Design Report (SDR) when the applicant files an application for a new license. An SDR demonstrates that the existing structures are safe and adequate to fulfill their stated functions.

In 2003, the Commission instituted a new program to be used in the context of the 18 CFR Part 12 Independent Consultant Safety Inspection Program entitled “Potential Failure Modes Analysis” (PFMA), which is a dam- and project-safety tool intended to broaden the scope of the safety evaluations to include potential failure scenarios that may have been overlooked in past investigations. In conjunction with these endeavors, the Commission also initiated a requirement for development of a Supporting Technical Information Document (STID) for Projects subject to Part 12D of the Commission’s regulations.

The STID includes sufficient information to understand the design and current engineering analyses for the Project such as:

1. A complete copy of the PFMA report and associated addendums;
2. A detailed description of the Project and Project works;
3. A summary of the construction history of the Project;

4. Summaries of Standard Operating Procedures;
5. A description of geologic conditions affecting the Project works;
6. A summary of hydrologic and hydraulic information;
7. Summaries of instrumentation and surveillance for the Project;
8. Summaries of stability and stress analyses for the Project works;
9. A summary of the spillway gate analyses; and
10. Pertinent dam safety correspondence.

The Ripogenus Project and 4 of the 5 developments of the Penobscot Mills Project are subject to Part 12D of the Commission’s regulations, have been inspected by an independent consultant within the past five years, and maintain an STID filed with the Commission. For reference purposes, Table F.2-1 and F.2-2 provides the dates for which the Projects’ most recent Part 12 Safety Inspection Report and PFMA Report, which are included within the STID, were filed with the Commission’s New York Regional Office. Based on the information provided in these filings, which is consistent with the information that would be provided in an SDR, an SDR was prepared for the East Millinocket Development of the Penobscot Mills Project and is being filed with the FERC as CUI//CEII.

**TABLE F.2-1
 LIST OF DAM SAFETY DOCUMENTS AND FILING DATES FOR RIPOGENUS
 PROJECT**

Document Name	Filing Date
Initial PFMA Report	September 2006
Initial STID	January 2007
Most recent STID Update	December 2020
11 th Part 12 Safety Inspection Report	December 2021

**TABLE F.2-2
 LIST OF DAM SAFETY DOCUMENTS AND FILING DATES FOR PENOBSCOT
 MILLS PROJECT**

Document Name	Filing Date
Millinocket Lake Storage Development	
Initial PFMA Report	November 2006
Initial STID	April 2008
Most recent STID Update	January 2019
11 th Part 12 Safety Inspection Report	December 2021

Document Name	Filing Date
North Twin Development	
Initial PFMA Report	November 2006
Initial STID	January 2007
Most recent STID Update	December 2019
11 th Part 12 Safety Inspection Report	December 2021
Millinocket Development	
Initial PFMA Report	2006
Initial STID	April 2008
Most recent STID Update	February 2021
11 th Part 12 Safety Inspection Report	April 2022
Dolby Development	
Initial PFMA Report	November 2006
Initial STID	January 2007
Most recent STID Update	February 2019
11 th Part 12 Safety Inspection Report	March 2022

FINAL LICENSE APPLICATION

EXHIBIT G PROJECT MAPS

**RIPOGENUS HYDROELECTRIC PROJECT (FERC NO. 2572)
PENOBSCOT MILLS HYDROELECTRIC PROJECT (FERC NO. 2458)**



**GREAT LAKES HYDRO AMERICA, LLC
Millinocket, Maine**

September 30, 2024

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EXHIBIT G – PROJECT MAPS

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Exhibit G

Project Maps

The enclosed Exhibit G drawings denote the Project boundaries for the Ripogenus and Penobscot Mills Hydroelectric Projects. In support of this Final License Application (FLA), updated drawings depicting the Project boundaries were prepared in accordance with the requirements of 18 Code of Federal Regulations (CFR) §4.39 and 4.51(h) for the entire Ripogenus Project (Exhibit G-1 through G-16) and for the Millinocket Lake Storage Development of the Penobscot Mills Project (Exhibit G-3A and G-3B). For the remainder of the Penobscot Mills Project, Sheets G-1 through G-2D and G-4 through G-10, which have been previously approved by FERC are also provided with this FLA. Table 1.0-1 presents the Penobscot Mills Project drawings previously approved by FERC, along with the FERC assigned Drawing Number and FERC Approval Date. Table 1.0-1 also provides the Sheet Numbers for the two Millinocket Lake Storage drawings.

TABLE 1.0-1
PENOBSCOT MILLS PROJECT BOUNDARY MAPS

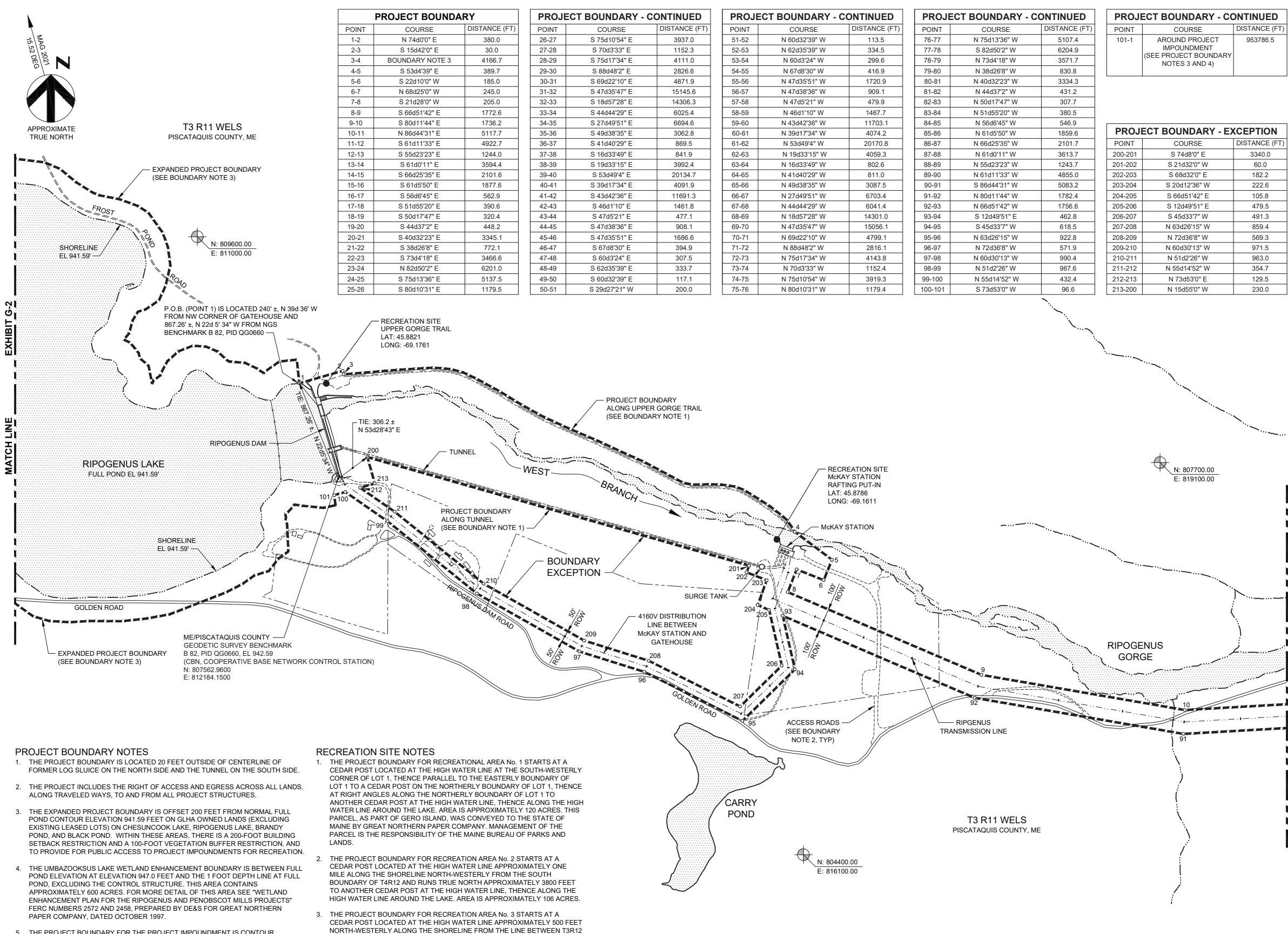
Development(s)	Sheet No.	FERC Drawing No.	Drawing Title	FERC Approval Date
Entire Area	G-1	2458-1098	Project Area Map	03/06/2023
North Twin	G-2A	2458-1080	Project Detail Map	01/25/2018
North Twin	G-2B	2458-1081	Project Detail Map	01/25/2018
North Twin	G-2C	2458-1082	Project Detail Map	01/25/2018
North Twin	G-2D	2458-1099	Project Detail Map	03/06/2023
Millinocket Lake Storage	G-3A	NA	Project Boundary Map	NA
Millinocket Lake Storage	G-3B	NA	Project Boundary Map	NA
Lower Project Developments	G-4	2458-1100	Project Boundary Map Lower Project Developments	03/06/2023
Millinocket	G-5	2458-1101	Project Boundary Detail Sheet	03/06/2023
Dolby and East Millinocket	G-6	2458-1102	Project Boundary Detail Sheet	03/06/2023
North Twin	G-7	2458-1076	Project Boundary Detail Sheet	02/12/2002
Millinocket	G-8	2458-1103	Ferguson Pond Detail Sheet	03/06/2023
East Millinocket and Millinocket Lake Storage	G-9	2458-1104	Project Boundary Detail Sheet	03/06/2023
Misc. Project	G-10	2458-1079	Misc. Project Boundary Details	02/12/2002

GHLA is not proposing modifications to the previously approved Project boundaries. For those drawings developed in support of the FLA (i.e., Ripogenus Project and Millinocket Lake Development drawings), potential deviations from previously filed drawings are the result of

depicting the Project boundaries electronically and within a Geographic Information Systems (GIS). GLHA possesses property or easement rights to all areas within the Project boundary.

Ripogenus Project Exhibit G Drawings

CAD FILENAME: P-2572-XXXX, G-1, PROJECT BOUNDARY MAP, MM-DD-YYYY.DWG



PROJECT BOUNDARY NOTES

- THE PROJECT BOUNDARY IS LOCATED 20 FEET OUTSIDE OF CENTERLINE OF FORMER LOG SLUICE ON THE NORTH SIDE AND THE TUNNEL ON THE SOUTH SIDE.
- THE PROJECT INCLUDES THE RIGHT OF ACCESS AND EGRESS ACROSS ALL LANDS, ALONG TRAVELED WAYS, TO AND FROM ALL PROJECT STRUCTURES.
- THE EXPANDED PROJECT BOUNDARY IS OFFSET 200 FEET FROM NORMAL FULL POND CONTOUR ELEVATION 941.59 FEET ON GLHA OWNED LANDS (EXCLUDING EXISTING LEASED LOTS) ON CHESUNCOOK LAKE, RIPOGENUS LAKE, BRANDY POND, AND BLACK POND. WITHIN THESE AREAS, THERE IS A 200-FOOT BUILDING SETBACK RESTRICTION AND A 100-FOOT VEGETATION BUFFER RESTRICTION, AND TO PROVIDE FOR PUBLIC ACCESS TO PROJECT IMPOUNDMENTS FOR RECREATION.
- THE UMBAZOOKS LAKE WETLAND ENHANCEMENT BOUNDARY IS BETWEEN FULL POND ELEVATION AT ELEVATION 947.0 FEET AND THE 1 FOOT DEPTH LINE AT FULL POND, EXCLUDING THE CONTROL STRUCTURE. THIS AREA CONTAINS APPROXIMATELY 600 ACRES. FOR MORE DETAIL OF THIS AREA SEE "WETLAND ENHANCEMENT PLAN FOR THE RIPOGENUS AND PENOBSCOT MILLS PROJECTS" FERC NUMBERS 2572 AND 2458, PREPARED BY DE&S FOR GREAT NORTHERN PAPER COMPANY, DATED OCTOBER 1997.
- THE PROJECT BOUNDARY FOR THE PROJECT IMPOUNDMENT IS CONTOUR ELEVATION 941.59 FEET UNLESS OTHERWISE NOTED.

PROJECT RECREATION SITE TABLE		
DESCRIPTION	LATITUDE	LONGITUDE
RESERVED RECREATION AREA No. 1 ★	46.0558	-69.3785
RESERVED RECREATION AREA No. 2 ★	45.9545	-69.3244
RESERVED RECREATION AREA No. 3 ★	45.8909	-69.3150
CARIBOU LAKE PUT-IN	45.8370	-69.3140
CHESUNCOOK DAM BOAT LAUNCH	45.8842	-69.2310
McKAY STATION RAFTING PUT-IN	45.8786	-69.1611
UPPER GORGE TRAIL	45.8821	-69.1761

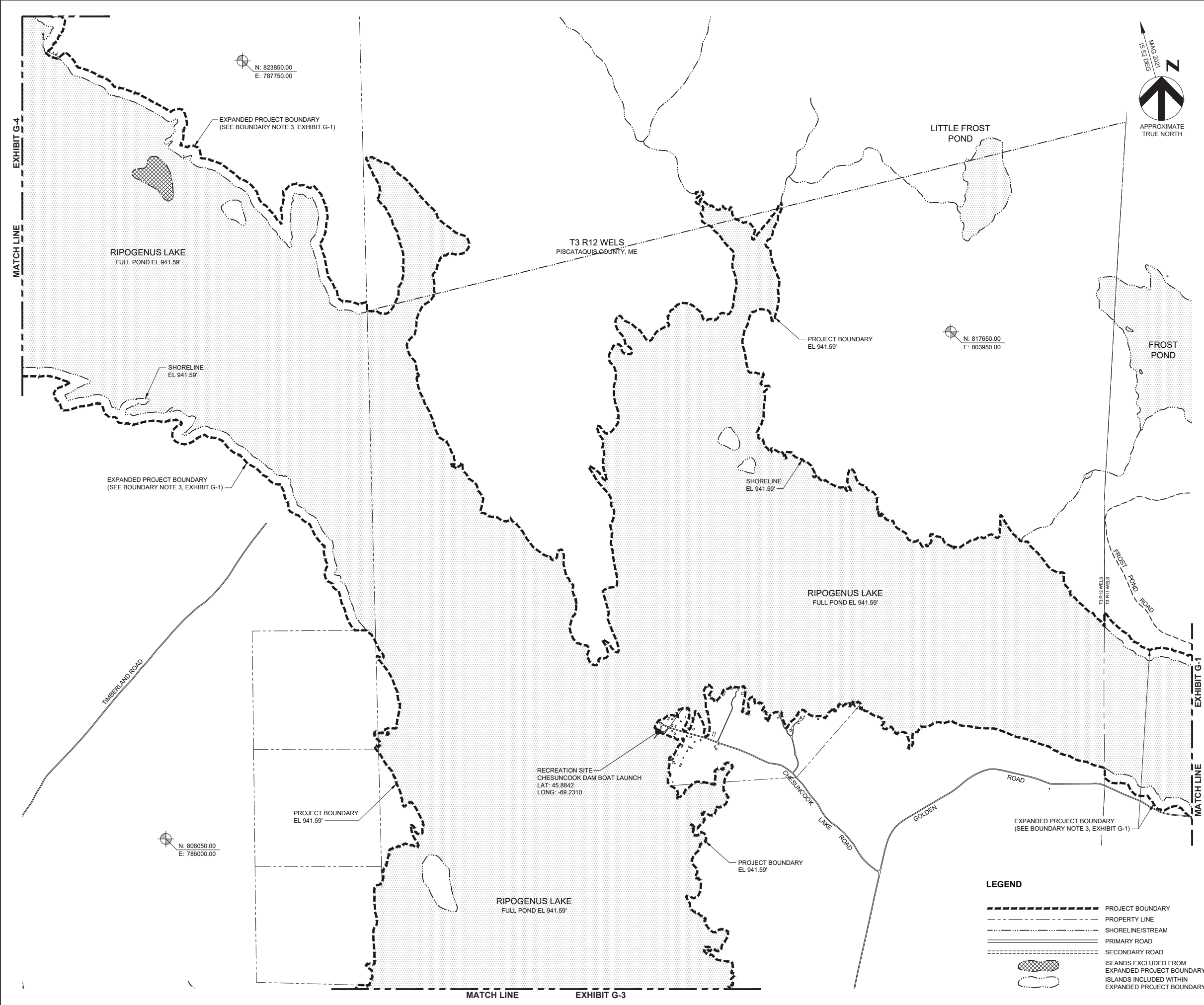
COORDINATE SYSTEM: WGS84

★ RECREATION AREA NO. 1, 2 AND 3 ARE LANDS RESERVED FOR RECREATION USE.

RECREATION SITE NOTES

- THE PROJECT BOUNDARY FOR RECREATIONAL AREA No. 1 STARTS AT A CEDAR POST LOCATED AT THE HIGH WATER LINE AT THE SOUTH-WESTERLY CORNER OF LOT 1, THENCE PARALLEL TO THE EASTERLY BOUNDARY OF LOT 1 TO A CEDAR POST ON THE NORTHERLY BOUNDARY OF LOT 1, THENCE AT RIGHT ANGLES ALONG THE NORTHERLY BOUNDARY OF LOT 1 TO ANOTHER CEDAR POST AT THE HIGH WATER LINE, THENCE ALONG THE HIGH WATER LINE AROUND THE LAKE. AREA IS APPROXIMATELY 120 ACRES. THIS PARCEL, AS PART OF GERO ISLAND, WAS CONVEYED TO THE STATE OF MAINE BY GREAT NORTHERN PAPER COMPANY. MANAGEMENT OF THE PARCEL IS THE RESPONSIBILITY OF THE MAINE BUREAU OF PARKS AND LANDS.
- THE PROJECT BOUNDARY FOR RECREATION AREA No. 2 STARTS AT A CEDAR POST LOCATED AT THE HIGH WATER LINE APPROXIMATELY ONE MILE ALONG THE SHORELINE NORTH-WESTERLY FROM THE SOUTH BOUNDARY OF T&R12 AND RUNS TRUE NORTH APPROXIMATELY 3800 FEET TO ANOTHER CEDAR POST AT THE HIGH WATER LINE, THENCE ALONG THE HIGH WATER LINE AROUND THE LAKE. AREA IS APPROXIMATELY 106 ACRES.
- THE PROJECT BOUNDARY FOR RECREATION AREA No. 3 STARTS AT A CEDAR POST LOCATED AT THE HIGH WATER LINE APPROXIMATELY 500 FEET NORTH-WESTERLY ALONG THE SHORELINE FROM THE LINE BETWEEN T3R12 AND T3R13, THENCE DUE EAST TO ANOTHER CEDAR POST ON THE HIGH WATER LINE, THENCE BY HIGH WATER LINE AROUND THE LAKE. AREA IS APPROXIMATELY 43 ACRES AND EXCLUDES ONE LEASE.

CAD FILENAME: P-2572-XXXX G-2, PROJECT BOUNDARY MAP, MM-DD-YYYY.DWG



PROJECT LOCATION MAP

RIPOGENUS HYDROELECTRIC PROJECT
PISCATAQUIS AND PENOBSCOT COUNTIES, MAINE
NAD83, MAINE STATE PLANE, EAST ZONE, US FEET
N: 723152.9574 E: 1480016.7894

VERMONT
MASSACHUSETTS
NEW HAMPSHIRE
PISCATAQUIS COUNTY
PENOBSCOT COUNTY

APPROXIMATE SCALE: 1"=100 MILES

MAP KEY

G-12, G-11, G-10, G-9, G-8, G-7, G-6, G-5, G-4, G-3, G-2, G-1, G-14, G-15, G-16

SOMERSET COUNTY
PISCATAQUIS COUNTY
PENOBSCOT COUNTY

APPROXIMATE SCALE: 1"=8 MILES

PROJECT BOUNDARY TIE DATA
THE PROJECT BOUNDARY IS TIED TO ME/PISCATAQUIS COUNTY GEODETIC SURVEY BENCHMARK B 82, PID GQ0660 (CBN, CONTROL BASE NETWORK CONTROL STATION)
N: 807562.9600, E: 812184.1500

TIE POINT 1 (P.O.B. RIPOGENUS DAM): 867.26' ±, N 22d53'4" W, EXHIBIT G-1

REFERENCE COORDINATE METADATA
PROJECTION - MAINE STATE PLANE
DATUM - NAD83
ZONE - EAST
UNITS - U.S. FOOT

GEOREFERENCE SOURCE DATA
DIGITIZED DATA: © 2024 MICROSOFT CORPORATION EARTHSTAR GEOGRAPHICS SIO

LIDAR ELEVATION DATA: U.S. GEOLOGICAL SURVEY, 20190501, USGS LIDAR POINT CLOUD ME EASTERN B1 LAS 2017: US GEOLOGICAL SURVEY.

PROPERTY DATA: MAINE GEOLIBRARY, JULY 2024, <https://www.maine.gov/geolib/catalog.html>
MAINE PARCELS UNORGANIZED TERRITORY

BOUNDARY DATA: FERC EXHIBIT G, GREAT NORTHERN PAPER, INC. RIPOGENUS PROJECT BOUNDARY MAPS, APRIL 4, 2002.

GENERAL NOTES

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- SEE EXHIBIT G-1 FOR PROJECT BOUNDARY TABLES AND COMPLETE RECREATION SITE LIST.

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EXHIBIT G-2 SHEET 2 OF 16

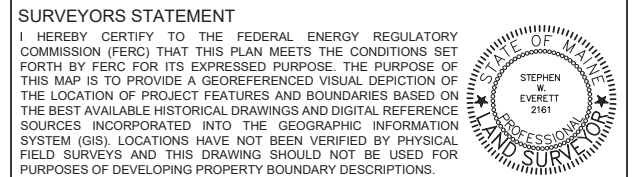
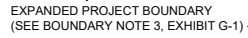
RIPOGENUS HYDROELECTRIC PROJECT
MAINE
PROJECT BOUNDARY MAP

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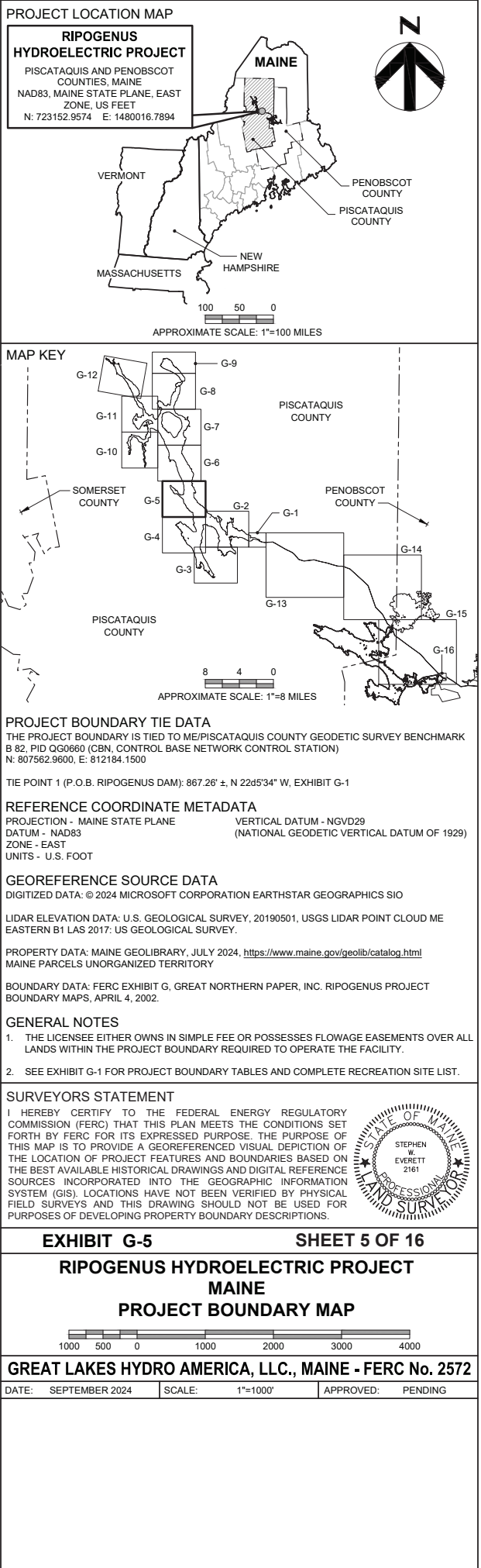
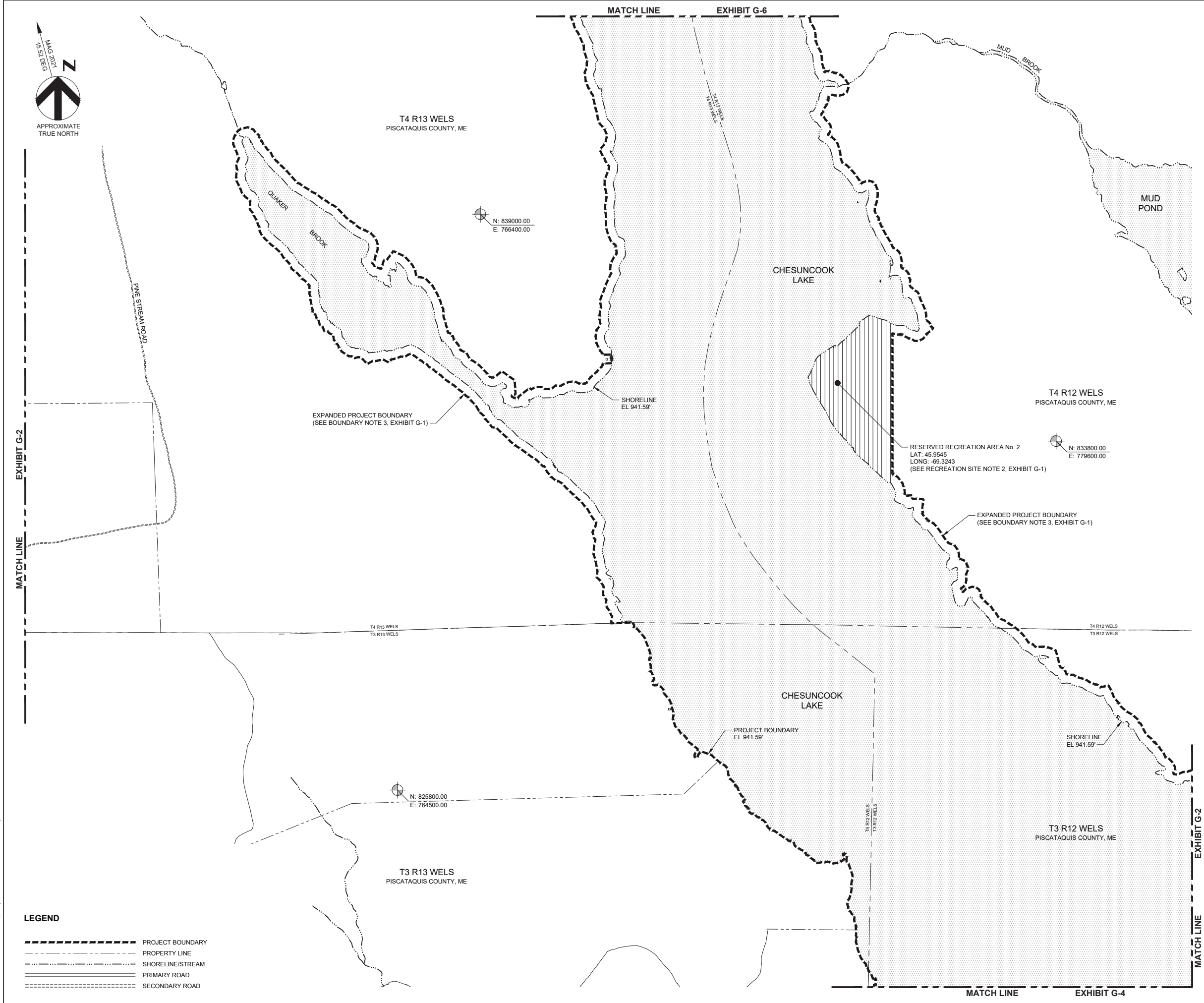
GREAT LAKES HYDRO AMERICA, LLC., MAINE - FERC No. 2572

DATE: SEPTEMBER 2024	SCALE: 1"=1000'	APPROVED: PENDING
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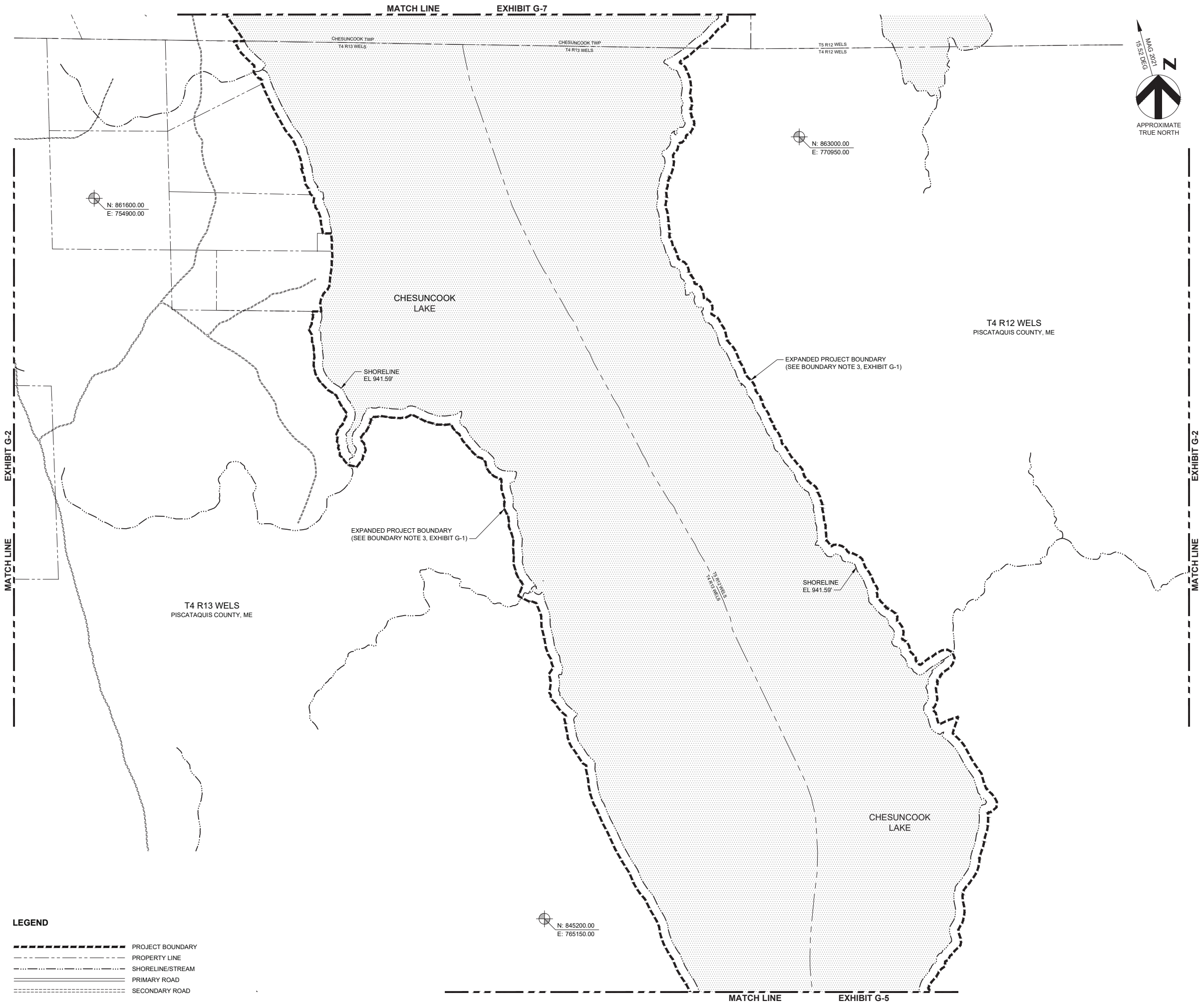
STATE OF MAINE
STEPHEN W. EVERETT
2161
PROFESSIONAL LAND SURVEYOR



CAD FILENAME: P-2572-XXXX, G-5, PROJECT BOUNDARY MAP, MM-DD-YYYY.DWG



CAD FILENAME: P-2572-XXXX, G-6, PROJECT BOUNDARY MAP, MM-DD-YYYY.DWG



PROJECT LOCATION MAP

RIPOGENUS HYDROELECTRIC PROJECT

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NAD83, MAINE STATE PLANE, EAST ZONE, US FEET
N: 723152.9574 E: 1480016.7894

VERMONT
MASSACHUSETTS
NEW HAMPSHIRE
PENOBSCOT COUNTY
PISCATAQUIS COUNTY

APPROXIMATE SCALE: 1"=100 MILES

MAP KEY

G-12
G-11
G-10
G-9
G-8
G-7
G-6
G-5
G-4
G-3
G-2
G-1
G-14
G-13
G-15
G-16

PISCATAQUIS COUNTY
SOMERSET COUNTY
PENOBSCOT COUNTY

APPROXIMATE SCALE: 1"=8 MILES

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N: 807562.9600, E: 812184.1500

TIE POINT 1 (P.O.B. RIPOGENUS DAM): 867.26' ±, N 22d534" W, EXHIBIT G-1

REFERENCE COORDINATE METADATA

PROJECTION - MAINE STATE PLANE
DATUM - NAD83
ZONE - EAST
UNITS - U.S. FOOT

VERTICAL DATUM - NGVD29
(NATIONAL GEODETIC VERTICAL DATUM OF 1929)

GEOREFERENCE SOURCE DATA

DIGITIZED DATA: © 2024 MICROSOFT CORPORATION EARTHSTAR GEOGRAPHICS SIO

LIDAR ELEVATION DATA: U.S. GEOLOGICAL SURVEY, 20190501, USGS LIDAR POINT CLOUD ME EASTERN B1 LAS 2017: US GEOLOGICAL SURVEY.

PROPERTY DATA: MAINE GEOLIBRARY, JULY 2024, <https://www.maine.gov/geolib/catalog.html>
MAINE PARCELS UNORGANIZED TERRITORY

BOUNDARY DATA: FERC EXHIBIT G, GREAT NORTHERN PAPER, INC. RIPOGENUS PROJECT BOUNDARY MAPS, APRIL 4, 2002.

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STATE OF MAINE
STEPHEN W. EVERETT
2161
PROFESSIONAL LAND SURVEYOR

EXHIBIT G-6 SHEET 6 OF 16

RIPOGENUS HYDROELECTRIC PROJECT

MAINE

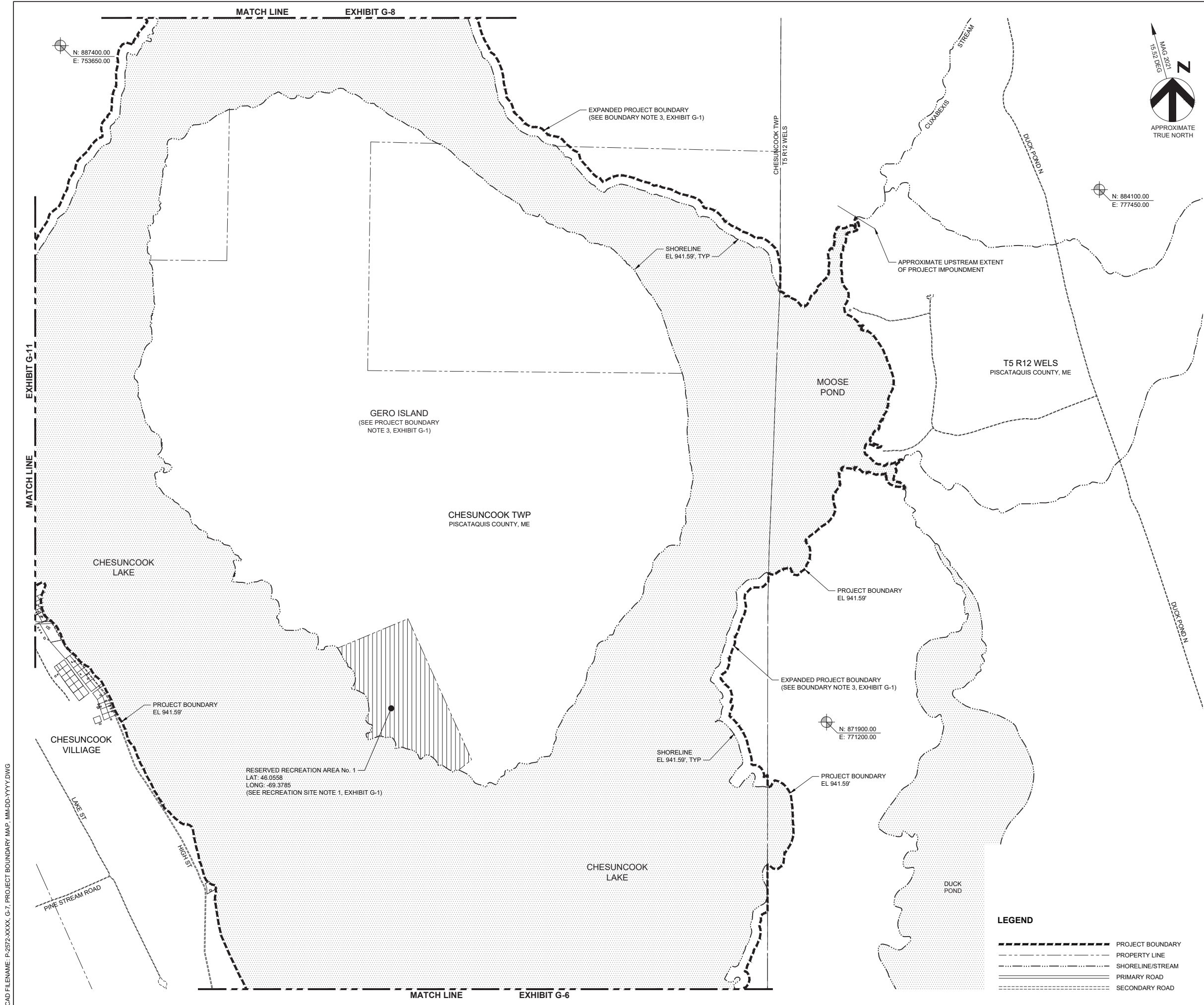
PROJECT BOUNDARY MAP

1000 500 0 1000 2000 3000 4000

GREAT LAKES HYDRO AMERICA, LLC., MAINE - FERC No. 2572

DATE: SEPTEMBER 2024 SCALE: 1"=1000' APPROVED: PENDING

FERC NO. P-2572-XXXX



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PISCATAQUIS AND PENOBSCOT COUNTIES, MAINE
NAD83, MAINE STATE PLANE, EAST ZONE, US FEET
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VERMONT
MASSACHUSETTS
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PENOBSCOT COUNTY
PISCATAQUIS COUNTY

APPROXIMATE SCALE: 1"=100 MILES

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PISCATAQUIS COUNTY
PENOBSCOT COUNTY
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APPROXIMATE SCALE: 1"=8 MILES

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UNITS - U.S. FOOT

VERTICAL DATUM - NGVD29
(NATIONAL GEODETIC VERTICAL DATUM OF 1929)

GEOREFERENCE SOURCE DATA
DIGITIZED DATA: © 2024 MICROSOFT CORPORATION EARTHSTAR GEOGRAPHICS SIO

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PROPERTY DATA: MAINE GEOLIBRARY, JULY 2024, <https://www.maine.gov/geolib/catalog.html>
MAINE PARCELS UNORGANIZED TERRITORY

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EXHIBIT G-7 SHEET 7 OF 16

RIPOGENUS HYDROELECTRIC PROJECT
MAINE
PROJECT BOUNDARY MAP

1000 500 0 1000 2000 3000 4000

GREAT LAKES HYDRO AMERICA, LLC., MAINE - FERC No. 2572

DATE: SEPTEMBER 2024	SCALE: 1"=1000'	APPROVED: PENDING
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CAD FILENAME: P-2572-XXXX, G-8, PROJECT BOUNDARY MAP, MM-DD-YYYY.DWG



MATCH LINE

EXHIBIT G-2

MATCH LINE

T6 R13 WELS
PISCATAQUIS COUNTY, ME

N: 904250.00
E: 754700.00

LITTLE
LONGLEY
POND

LITTLE
LONGLEY
STREAM

LONGLEY
BROOK

LONGLEY STREAM ROAD

T6 R13 WELS
CHESUNCOOK TWP

EXPANDED PROJECT BOUNDARY
(SEE BOUNDARY NOTE 3, EXHIBIT G-1)

CHESUNCOOK TWP
PISCATAQUIS COUNTY, ME

SHORELINE
EL. 941.59', TYP

CHESUNCOOK
LAKE

MATCH LINE

EXHIBIT G-7

MATCH LINE

EXHIBIT G-9

UMBAZOOKSUS LAKE WETLAND ENHANCEMENT
PROJECT BOUNDARY EL 947.0'
(SEE BOUNDARY NOTE 4, EXHIBIT G-1)

UMBAZOOKSUS
LAKE

UMBAZOOKSUS DAM
(NON-PROJECT, BOUNDARY NOTE 4, EXHIBIT G-1)

UMBAZOOKSUS
STREAM

APPROXIMATE UPSTREAM EXTENT
OF PROJECT IMPOUNDMENT

SHORELINE
EL. 941.59', TYP

CHESUNCOOK
LAKE

EXPANDED PROJECT BOUNDARY
(SEE BOUNDARY NOTE 3, EXHIBIT G-1)

N: 889850.00
E: 764300.00

GRAND MARCHE ROAD

LONGLEY STREAM ROAD

T6 R12 WELS
PISCATAQUIS COUNTY, ME

N: 899500.00
E: 773300.00

T6 R13 WELS
T6 R12 WELS

T6 R13 WELS
T5 R12 WELS

T5 R12 WELS
PISCATAQUIS COUNTY, ME

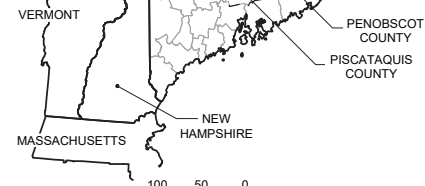
CUXABEXIS
LAKE

LEGEND

- PROJECT BOUNDARY
- PROPERTY LINE
- SHORELINE/STREAM
- PRIMARY ROAD
- SECONDARY ROAD

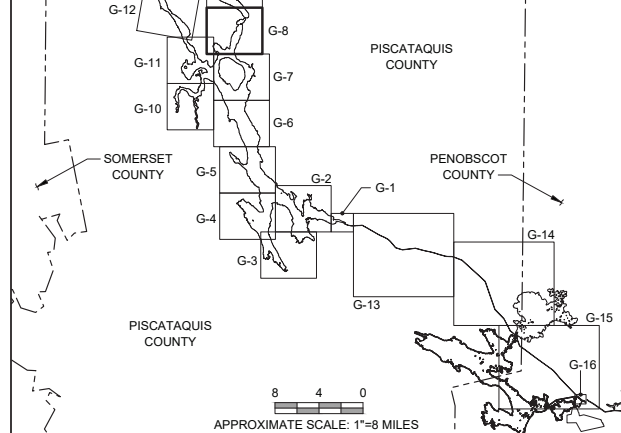
PROJECT LOCATION MAP

**RIPOGENUS
HYDROELECTRIC PROJECT**
PISCATAQUIS AND PENOBSCOT
COUNTIES, MAINE
NAD83, MAINE STATE PLANE, EAST
ZONE, US FEET
N: 723152.9574 E: 1480016.7894



100 50 0
APPROXIMATE SCALE: 1"=100 MILES

MAP KEY



PROJECT BOUNDARY TIE DATA

THE PROJECT BOUNDARY IS TIED TO ME/PISCATAQUIS COUNTY GEODETIC SURVEY BENCHMARK
B 82, PID QG0660 (CBN, CONTROL BASE NETWORK CONTROL STATION)
N: 807562.9600, E: 812184.1500

TIE POINT 1 (P.O.B. RIPOGENUS DAM): 867.26' ±, N 22d534" W, EXHIBIT G-1

REFERENCE COORDINATE METADATA

PROJECTION - MAINE STATE PLANE VERTICAL DATUM - NGVD29
DATUM - NAD83 (NATIONAL GEODETIC VERTICAL DATUM OF 1929)
ZONE - EAST
UNITS - U.S. FOOT

GEOREFERENCE SOURCE DATA

DIGITIZED DATA: © 2024 MICROSOFT CORPORATION EARTHSTAR GEOGRAPHICS SIO

LIDAR ELEVATION DATA: U.S. GEOLOGICAL SURVEY, 20190501, USGS LIDAR POINT CLOUD ME
EASTERN B1 LAS 2017: US GEOLOGICAL SURVEY.

PROPERTY DATA: MAINE GEOLIBRARY, JULY 2024, <https://www.maine.gov/geolib/catalog.html>
MAINE PARCELS UNORGANIZED TERRITORY

BOUNDARY DATA: FERC EXHIBIT G, GREAT NORTHERN PAPER, INC. RIPOGENUS PROJECT
BOUNDARY MAPS, APRIL 4, 2002.

GENERAL NOTES

- THE LICENSEE EITHER OWNS IN SIMPLE FEE OR POSSESSES FLOWAGE EASEMENTS OVER ALL
LANDS WITHIN THE PROJECT BOUNDARY REQUIRED TO OPERATE THE FACILITY.
- SEE EXHIBIT G-1 FOR PROJECT BOUNDARY TABLES AND COMPLETE RECREATION SITE LIST.

SURVEYORS STATEMENT

I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY
COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET
FORTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF
THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION OF
THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON
THE BEST AVAILABLE HISTORICAL DRAWINGS AND DIGITAL REFERENCE
SOURCES INCORPORATED INTO THE GEOGRAPHIC INFORMATION
SYSTEM (GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL
FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR
PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS.



EXHIBIT G-8

SHEET 8 OF 16

RIPOGENUS HYDROELECTRIC PROJECT
MAINE
PROJECT BOUNDARY MAP

1000 500 0 1000 2000 3000 4000

GREAT LAKES HYDRO AMERICA, LLC., MAINE - FERC No. 2572

DATE: SEPTEMBER 2024 SCALE: 1"=1000' APPROVED: PENDING

CAD FILENAME: P-2572-XXXX, G-9, PROJECT BOUNDARY MAP, MM-HDD-YYYY.DWG



N: 920000.00
E: 752350.00

T6 R13 WELS
PISCATAQUIS COUNTY, ME

UMBAZOOKSUS LAKE WETLAND ENHANCEMENT
PROJECT BOUNDARY EL. 947.0'
(SEE BOUNDARY NOTE 4, EXHIBIT G-1)

N: 910950.00
E: 757600.00

N: 921100.00
E: 768100.00

T6 R12 WELS
PISCATAQUIS COUNTY, ME

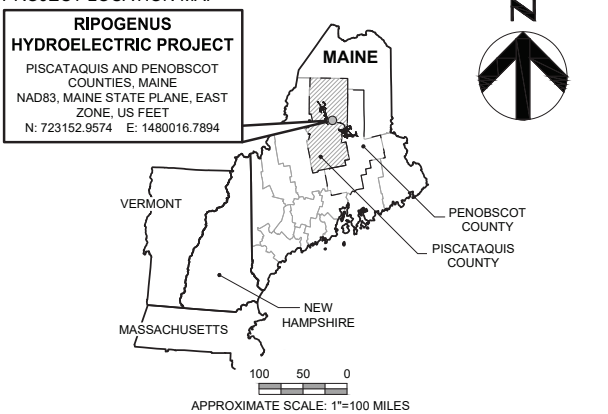
MATCH LINE

EXHIBIT G-8

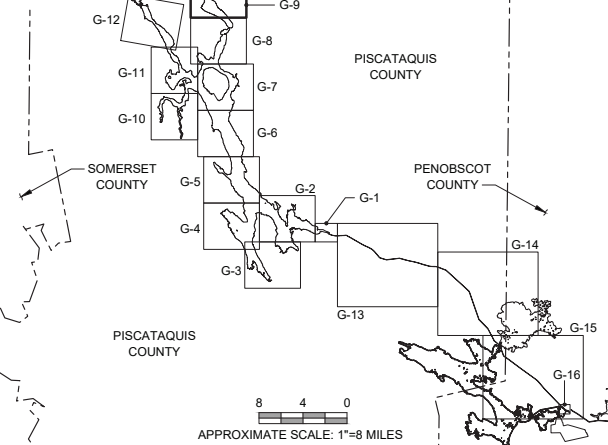
LEGEND

- PROJECT BOUNDARY
- PROPERTY LINE
- SHORELINE/STREAM
- PRIMARY ROAD
- SECONDARY ROAD

PROJECT LOCATION MAP



MAP KEY



PROJECT BOUNDARY TIE DATA

THE PROJECT BOUNDARY IS TIED TO ME/PISCATAQUIS COUNTY GEODETIC SURVEY BENCHMARK B 82, PID QG0660 (CBN, CONTROL, BASE NETWORK CONTROL STATION)
N: 807562.9600, E: 812184.1500

TIE POINT 1 (P.O.B. RIPOGENUS DAM): 867.26' ±, N 22d534' W, EXHIBIT G-1

REFERENCE COORDINATE METADATA

PROJECTION - MAINE STATE PLANE
DATUM - NAD83
ZONE - EAST
UNITS - U.S. FOOT

VERTICAL DATUM - NGVD29
(NATIONAL GEODETIC VERTICAL DATUM OF 1929)

GEOREFERENCE SOURCE DATA

DIGITIZED DATA: © 2024 MICROSOFT CORPORATION EARTHSTAR GEOGRAPHICS SIO

LIDAR ELEVATION DATA: U.S. GEOLOGICAL SURVEY, 20190501, USGS LIDAR POINT CLOUD ME EASTERN B1 LAS 2017: US GEOLOGICAL SURVEY.

PROPERTY DATA: MAINE GEOLIBRARY, JULY 2024, <https://www.maine.gov/geolib/catalog.html>
MAINE PARCELS UNORGANIZED TERRITORY

BOUNDARY DATA: FERC EXHIBIT G, GREAT NORTHERN PAPER, INC. RIPOGENUS PROJECT BOUNDARY MAPS, APRIL 4, 2002.

GENERAL NOTES

- THE LICENSEE EITHER OWNS IN SIMPLE FEE OR POSSESSES FLOWAGE EASEMENTS OVER ALL LANDS WITHIN THE PROJECT BOUNDARY REQUIRED TO OPERATE THE FACILITY.
- SEE EXHIBIT G-1 FOR PROJECT BOUNDARY TABLES AND COMPLETE RECREATION SITE LIST.

SURVEYORS STATEMENT

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EXHIBIT G-9 SHEET 9 OF 16

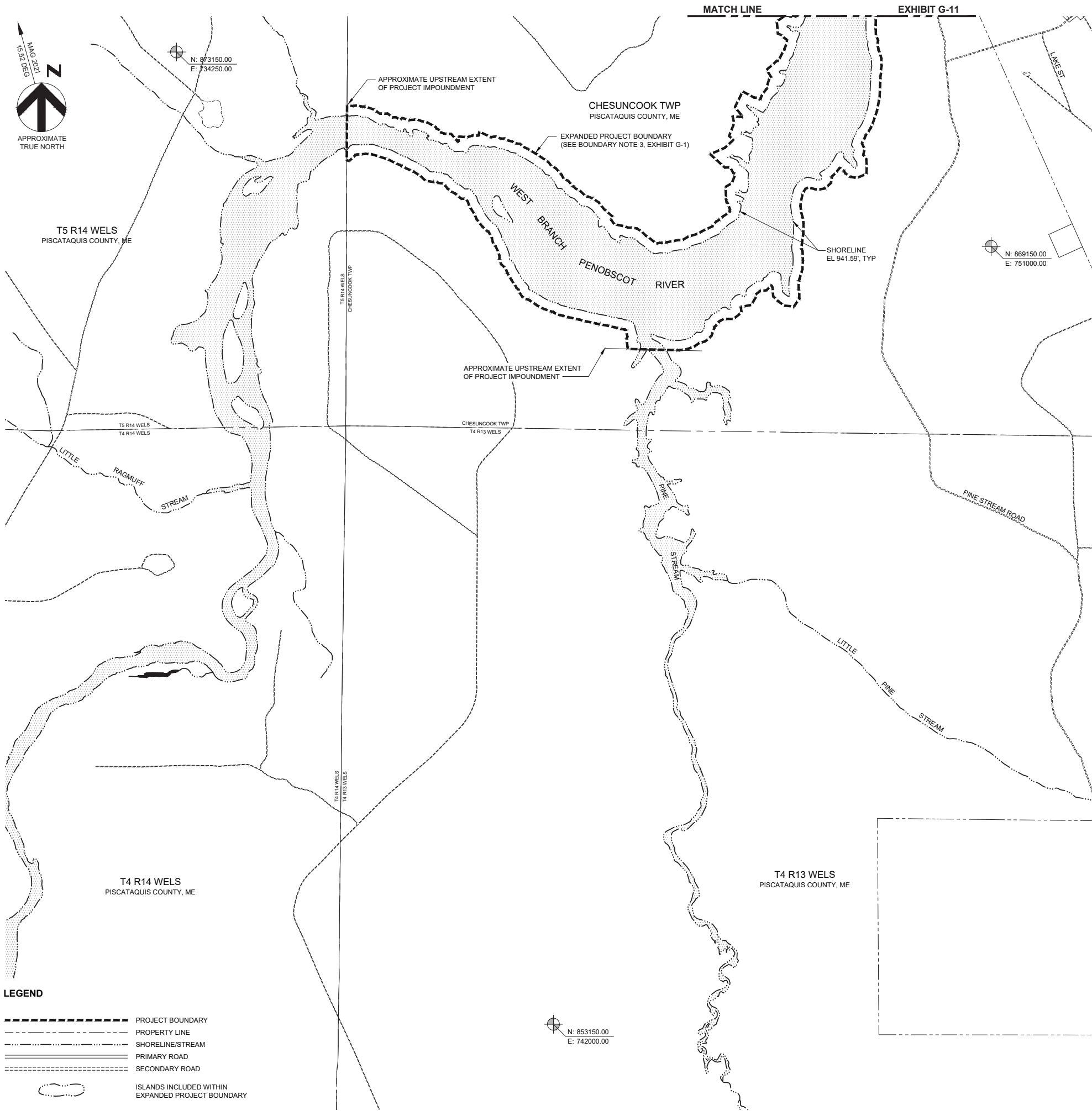
RIPOGENUS HYDROELECTRIC PROJECT
MAINE
PROJECT BOUNDARY MAP

1000 500 0 1000 2000 3000 4000

GREAT LAKES HYDRO AMERICA, LLC., MAINE - FERC No. 2572

DATE: SEPTEMBER 2024	SCALE: 1"=1000'	APPROVED: PENDING
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CAD FILENAME: P-2572-XXXX, G-10, PROJECT BOUNDARY MAP, MM-DD-YYYY.DWG



PROJECT LOCATION MAP

RIPOGENUS
HYDROELECTRIC PROJECT

PISCATAQUIS AND PENOBSCOT
COUNTIES, MAINE

NAD83, MAINE STATE PLANE, EAST
ZONE, US FEET

N: 723152.9574 E: 1480016.7894

MAINE

VERMONT

MASSACHUSETTS

NEW HAMPSHIRE

PENOBSCOT
COUNTY

PISCATAQUIS
COUNTY

100 50 0

APPROXIMATE SCALE: 1"=100 MILES

MAP KEY

G-12

G-11

G-10

G-9

G-8

G-7

G-6

G-5

G-4

G-3

G-2

G-1

G-14

G-15

G-16

G-13

SOMERSET
COUNTY

PISCATAQUIS
COUNTY

PENOBSCOT
COUNTY

8 4 0

APPROXIMATE SCALE: 1"=8 MILES

PROJECT BOUNDARY TIE DATA

THE PROJECT BOUNDARY IS TIED TO ME/PISCATAQUIS COUNTY GEODETIC SURVEY BENCHMARK
B 82, PID QG0660 (CBN, CONTROL BASE NETWORK CONTROL STATION)
N: 807562.9600, E: 812184.1500

TIE POINT 1 (P.O.B. RIPOGENUS DAM): 867.26' ±, N 22d534" W, EXHIBIT G-1

REFERENCE COORDINATE METADATA

PROJECTION - MAINE STATE PLANE

DATUM - NAD83

ZONE - EAST

UNITS - U.S. FOOT

VERTICAL DATUM - NGVD29

(NATIONAL GEODETIC VERTICAL DATUM OF 1929)

GEOREFERENCE SOURCE DATA

DIGITIZED DATA: © 2024 MICROSOFT CORPORATION EARTHSTAR GEOGRAPHICS SIO

LIDAR ELEVATION DATA: U.S. GEOLOGICAL SURVEY, 20190501, USGS LIDAR POINT CLOUD ME
EASTERN B1 LAS 2017: US GEOLOGICAL SURVEY.

PROPERTY DATA: MAINE GEOLIBRARY, JULY 2024, <https://www.maine.gov/geolib/catalog.html>
MAINE PARCELS UNORGANIZED TERRITORY

BOUNDARY DATA: FERC EXHIBIT G, GREAT NORTHERN PAPER, INC. RIPOGENUS PROJECT
BOUNDARY MAPS, APRIL 4, 2002.

GENERAL NOTES

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2. SEE EXHIBIT G-1 FOR PROJECT BOUNDARY TABLES AND COMPLETE RECREATION SITE LIST.

SURVEYORS STATEMENT

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SOURCES INCORPORATED INTO THE GEOGRAPHIC INFORMATION
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FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR
PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS.

STATE OF MAINE

STEPHEN
W.
EVERETT
2161

PROFESSIONAL
LAND SURVEYOR

EXHIBIT G-10

SHEET 10 OF 16

RIPOGENUS HYDROELECTRIC PROJECT

MAINE

PROJECT BOUNDARY MAP

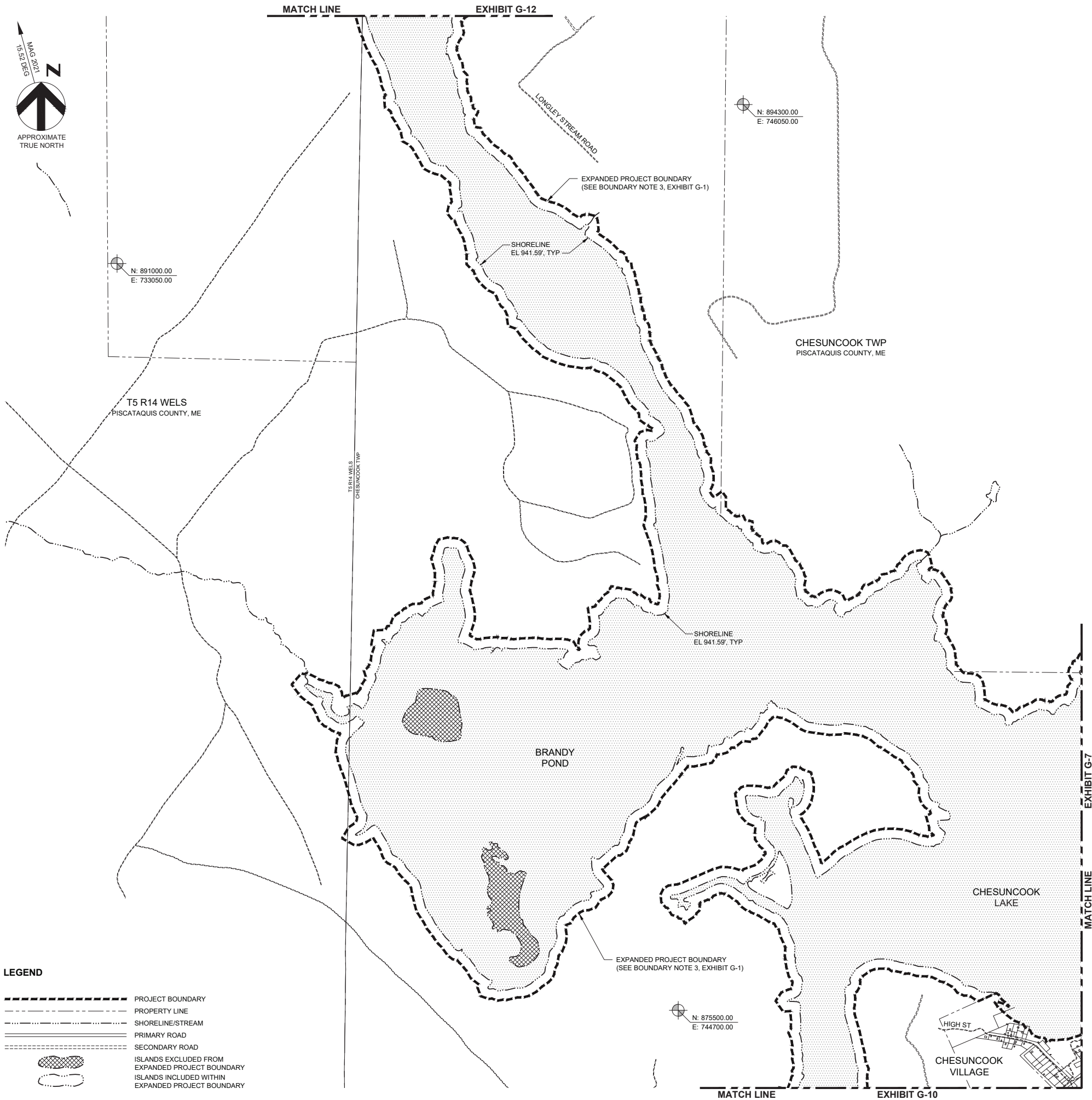
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GREAT LAKES HYDRO AMERICA, LLC., MAINE - FERC No. 2572

DATE: SEPTEMBER 2024 SCALE: 1"=1000' APPROVED: PENDING

FERC NO. P-2572-XXXX

CAD FILENAME: P-2572-XXXX, G-11, PROJECT BOUNDARY MAP, MM-DD-YYYY.DWG



CAD FILENAME: P-2572-XXXX, G-12, PROJECT BOUNDARY MAP, MM-DD-YYYY.DWG



PROJECT LOCATION MAP

RIPOGENUS HYDROELECTRIC PROJECT
PISCATAQUIS AND PENOBSCOT COUNTIES, MAINE
NAD83, MAINE STATE PLANE, EAST ZONE, US FEET
N: 723152.9574 E: 1480016.7894

VERMONT
MASSACHUSETTS
NEW HAMPSHIRE
PISCATAQUIS COUNTY
PENOBSCOT COUNTY

100 50 0
APPROXIMATE SCALE: 1"=100 MILES

MAP KEY

G-12
G-11
G-10
G-9
G-8
G-7
G-6
G-5
G-4
G-3
G-2
G-1
G-14
G-13
G-15
G-16

SOMERSET COUNTY
PISCATAQUIS COUNTY
PENOBSCOT COUNTY

8 4 0
APPROXIMATE SCALE: 1"=8 MILES

PROJECT BOUNDARY TIE DATA
THE PROJECT BOUNDARY IS TIED TO ME/PISCATAQUIS COUNTY GEODETIC SURVEY BENCHMARK B 82, PID QG0660 (CBN, CONTROL BASE NETWORK CONTROL STATION)
N: 807562.9600, E: 812184.1500

TIE POINT 1 (P.O.B. RIPOGENUS DAM): 867.26' ±, N 22d5'34" W, EXHIBIT G-1

REFERENCE COORDINATE METADATA
PROJECTION - MAINE STATE PLANE
DATUM - NAD83
ZONE - EAST
UNITS - U.S. FOOT

VERTICAL DATUM - NGVD29
(NATIONAL GEODETIC VERTICAL DATUM OF 1929)

GEOREFERENCE SOURCE DATA
DIGITIZED DATA: © 2024 MICROSOFT CORPORATION EARTHSTAR GEOGRAPHICS SIO

LIDAR ELEVATION DATA: U.S. GEOLOGICAL SURVEY, 20190501, USGS LIDAR POINT CLOUD ME EASTERN B1 LAS 2017: US GEOLOGICAL SURVEY.

PROPERTY DATA: MAINE GEOLIBRARY, JULY 2024, <https://www.maine.gov/geolib/catalog.html>
MAINE PARCELS UNORGANIZED TERRITORY

BOUNDARY DATA: FERC EXHIBIT G, GREAT NORTHERN PAPER, INC. RIPOGENUS PROJECT BOUNDARY MAPS, APRIL 4, 2002.

GENERAL NOTES

- THE LICENSEE EITHER OWNS IN SIMPLE FEE OR POSSESSES FLOWAGE EASEMENTS OVER ALL LANDS WITHIN THE PROJECT BOUNDARY REQUIRED TO OPERATE THE FACILITY.
- SEE EXHIBIT G-1 FOR PROJECT BOUNDARY TABLES AND COMPLETE RECREATION SITE LIST.

SURVEYORS STATEMENT
I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FORTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS AND DIGITAL REFERENCE SOURCES INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS.

EXHIBIT G-12 SHEET 12 OF 16
RIPOGENUS HYDROELECTRIC PROJECT
MAINE
PROJECT BOUNDARY MAP

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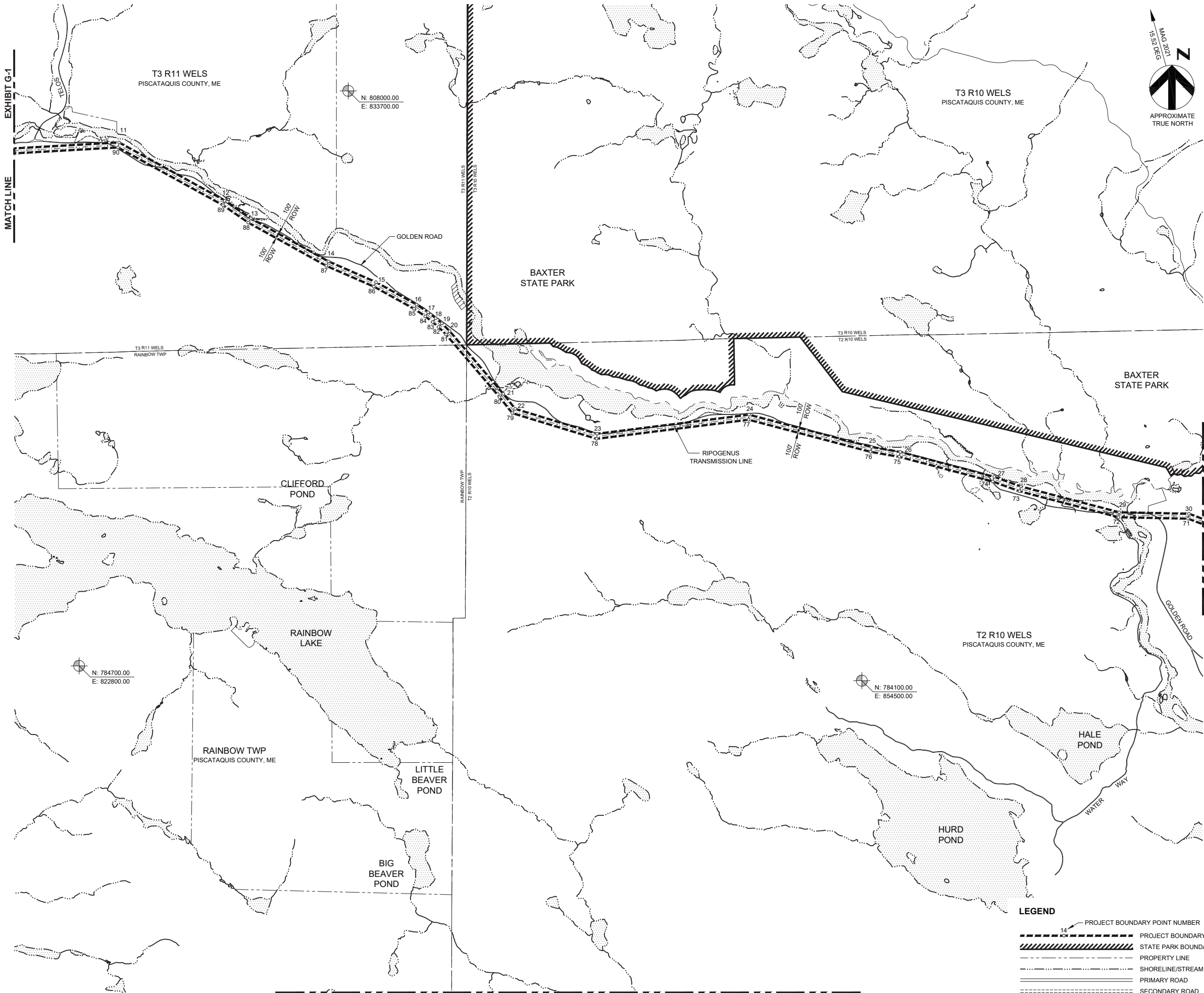
GREAT LAKES HYDRO AMERICA, LLC., MAINE - FERC No. 2572

DATE: SEPTEMBER 2024	SCALE: 1"=1000'	APPROVED: PENDING
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STATE OF MAINE
STEPHEN W. EVERETT
2161
PROFESSIONAL LAND SURVEYOR

FERC NO. P-2572-XXXX

CAD FILENAME: P-2572-XXXX, G-13, PROJECT BOUNDARY MAP, MM-DD-YYYY.DWG



PROJECT LOCATION MAP

**RIOGENUS
HYDROELECTRIC PROJECT**

PISCATAQUIS AND PENOBSCOT
COUNTIES, MAINE
NAD83, MAINE STATE PLANE, EAST
ZONE, US FEET
N: 723152.9574 E: 1480016.7894

VERMONT
MASSACHUSETTS
NEW HAMPSHIRE
PISCATAQUIS COUNTY
PENOBSCOT COUNTY

100 50 0
APPROXIMATE SCALE: 1"=100 MILES

MAP KEY

PISCATAQUIS COUNTY
PENOBSCOT COUNTY
SOMERSET COUNTY

8 4 0
APPROXIMATE SCALE: 1"=8 MILES

PROJECT BOUNDARY TIE DATA

THE PROJECT BOUNDARY IS TIED TO ME/PISCATAQUIS COUNTY GEODETIC SURVEY BENCHMARK
B 82, PID OG0680 (CBN, CONTROL BASE NETWORK CONTROL STATION)
N: 807562.9600, E: 812184.1500

TIE POINT 1 (P.O.B. RIOGENUS DAM): 867.26' ±, N 22d53'4" W, EXHIBIT G-1

REFERENCE COORDINATE METADATA

PROJECTION - MAINE STATE PLANE	VERTICAL DATUM - NGVD29
DATUM - NAD83	(NATIONAL GEODETIC VERTICAL DATUM OF 1929)
ZONE - EAST	
UNITS - U.S. FOOT	

GEOREFERENCE SOURCE DATA

DIGITIZED DATA: © 2024 MICROSOFT CORPORATION EARTHSTAR GEOGRAPHICS SIO

LIDAR ELEVATION DATA: U.S. GEOLOGICAL SURVEY, 20190501, USGS LIDAR POINT CLOUD ME
EASTERN B1 LAS 2017: US GEOLOGICAL SURVEY.

PROPERTY DATA: MAINE GEOLIBRARY, JULY 2024, <https://www.maine.gov/geolib/catalog.html>
MAINE PARCELS UNORGANIZED TERRITORY

BRIDGHAM ENGINEERING AND LAND SURVEYING,
SURVEY PLAT RIOGENUS PROJECT, AUGUST 19, 2004.

BOUNDARY DATA: FERC EXHIBIT G, GREAT NORTHERN PAPER, INC. RIOGENUS PROJECT
BOUNDARY MAPS, APRIL 4, 2002.

GENERAL NOTES

- THE LICENSEE EITHER OWNS IN SIMPLE FEE OR POSSESSES FLOWAGE EASEMENTS OVER ALL LANDS WITHIN THE PROJECT BOUNDARY REQUIRED TO OPERATE THE FACILITY.
- SEE EXHIBIT G-1 FOR PROJECT BOUNDARY TABLES AND COMPLETE RECREATION SITE LIST.

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STATE OF MAINE
STEPHEN W. EVERETT
2161
PROFESSIONAL LAND SURVEYOR

EXHIBIT G-13 **SHEET 13 OF 16**

RIOGENUS HYDROELECTRIC PROJECT

MAINE

PROJECT BOUNDARY MAP

1800 900 0 1800 3600 5400 7200

GREAT LAKES HYDRO AMERICA, LLC., MAINE - FERC No. 2572

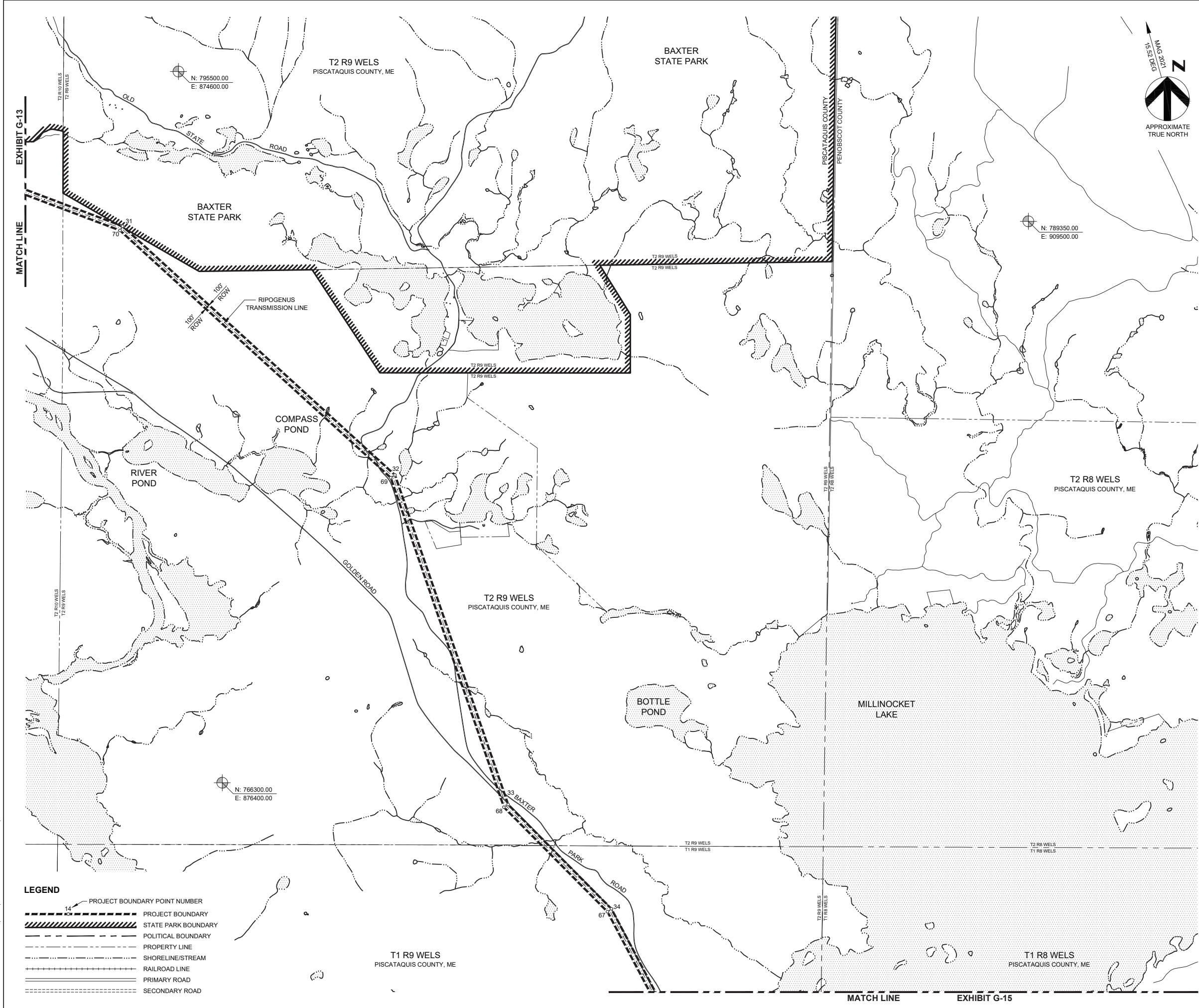
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LEGEND

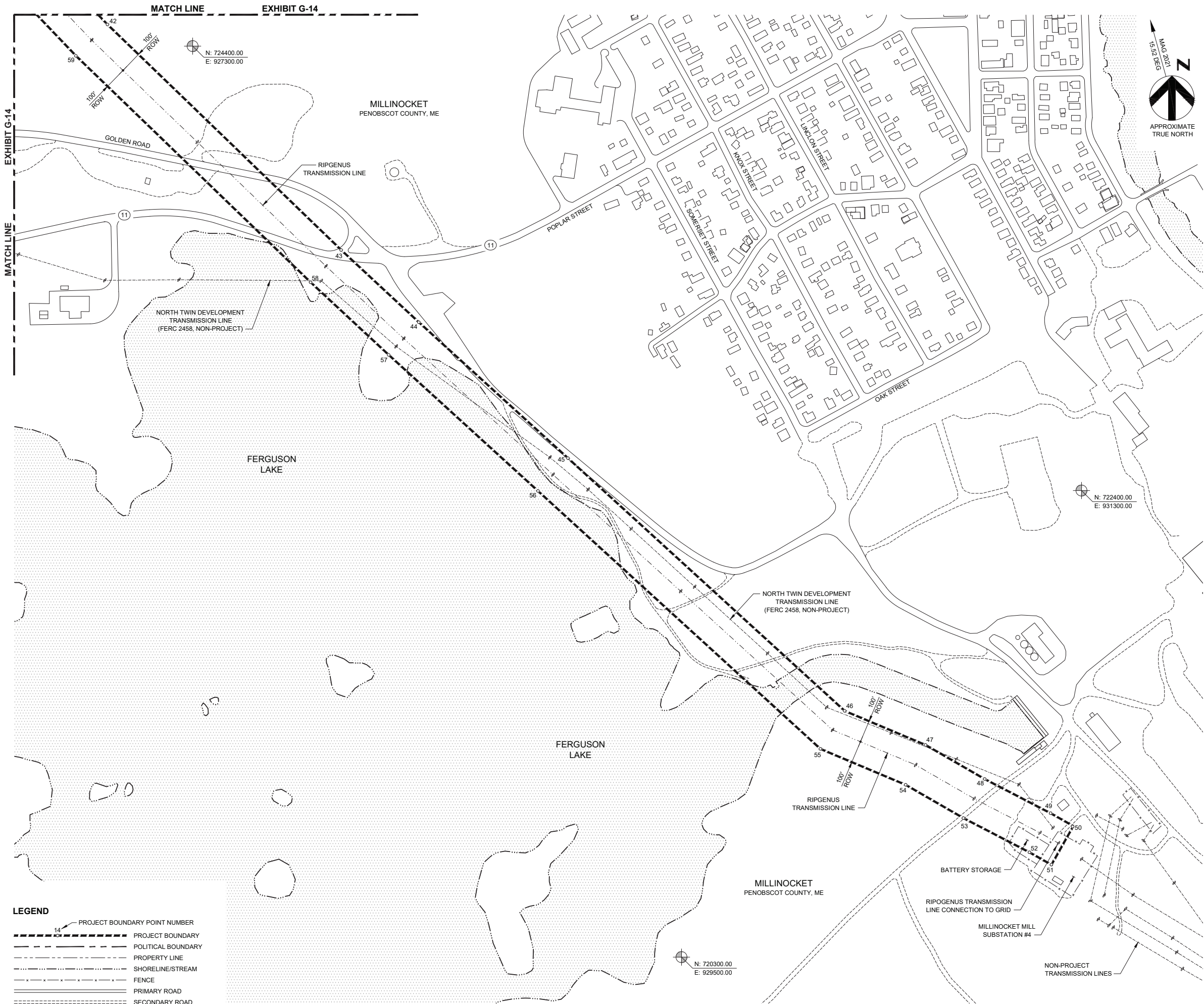
- PROJECT BOUNDARY POINT NUMBER
- PROJECT BOUNDARY
- STATE PARK BOUNDARY
- PROPERTY LINE
- SHORELINE/STREAM
- PRIMARY ROAD
- SECONDARY ROAD

FERC NO. P-2572-XXXX

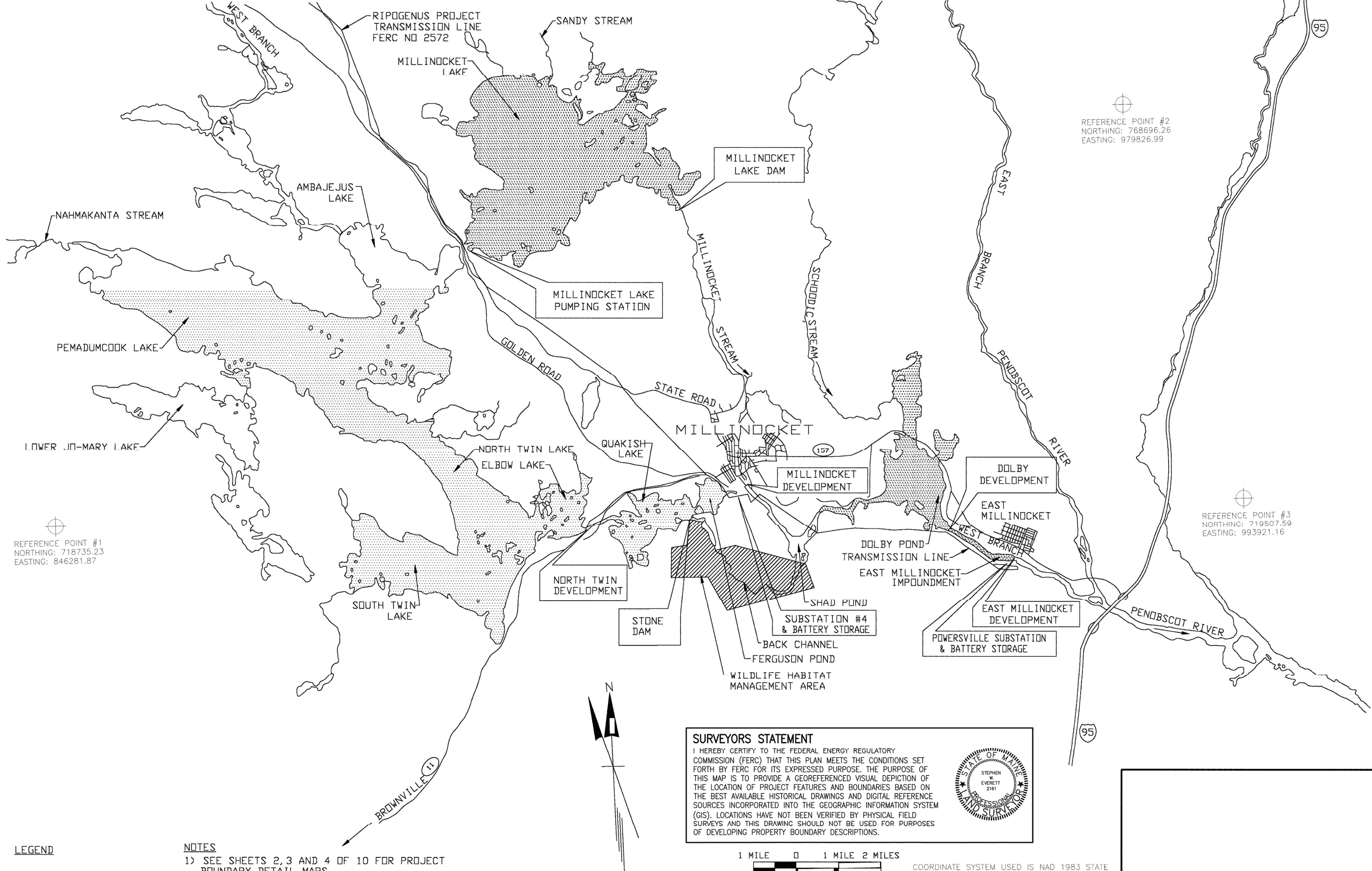
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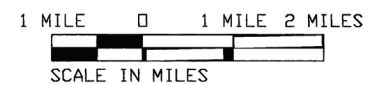
Penobscot Mills Exhibit G Drawings



SURVEYORS STATEMENT

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STATE OF MAINE
STEPHEN W. EVERETT
2161
PROFESSIONAL LAND SURVEYOR



COORDINATE SYSTEM USED IS NAD 1983 STATE PLANE MAINE EAST FIPS 1801 (US FEET).

- LEGEND**
- PROJECT WATERS
 - TRANSMISSION LINE
 - PROJECT BOUNDARY

NOTES

1) SEE SHEETS 2, 3 AND 4 OF 10 FOR PROJECT BOUNDARY DETAIL MAPS.

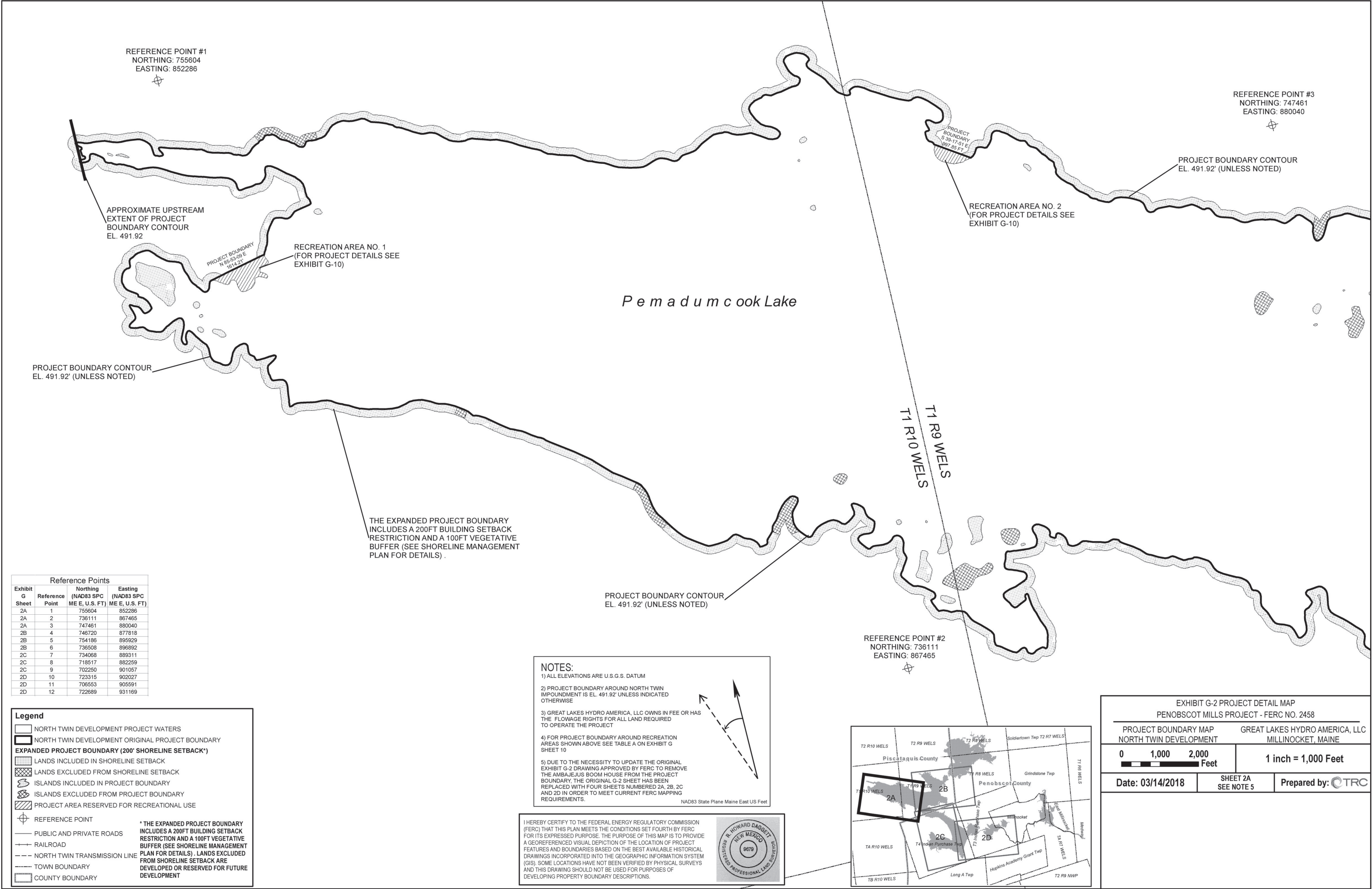
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CDRR			
APPVD			
ISSUE CODE			
P - PRELIM	B - BIDS		
M-MTL	T.O. C - CONST.		
SCALE	AS SHOWN		

RB-25248

EXHIBIT G-1 SHEET 1 OF 10
PENOBSCOT MILLS PROJECT

PROJECT AREA MAP

GREAT LAKES HYDRO AMERICA, LLC
MILLINOCKET, MAINE



Reference Points			
Exhibit G Sheet	Reference Point	Northing (NAD83 SPC ME E, U.S. FT)	Easting (NAD83 SPC ME E, U.S. FT)
2A	1	755604	852286
2A	2	736111	867465
2A	3	747461	880040
2B	4	746720	877818
2B	5	754186	895929
2B	6	736508	896892
2C	7	734068	889311
2C	8	718517	882259
2C	9	702250	901057
2D	10	723315	902027
2D	11	706553	905591
2D	12	722689	931169

Legend

- NORTH TWIN DEVELOPMENT PROJECT WATERS
- NORTH TWIN DEVELOPMENT ORIGINAL PROJECT BOUNDARY
- EXPANDED PROJECT BOUNDARY (200' SHORELINE SETBACK*)**
- LANDS INCLUDED IN SHORELINE SETBACK
- LANDS EXCLUDED FROM SHORELINE SETBACK
- ISLANDS INCLUDED IN PROJECT BOUNDARY
- ISLANDS EXCLUDED FROM PROJECT BOUNDARY
- PROJECT AREA RESERVED FOR RECREATIONAL USE
- REFERENCE POINT
- PUBLIC AND PRIVATE ROADS
- RAILROAD
- NORTH TWIN TRANSMISSION LINE
- TOWN BOUNDARY
- COUNTY BOUNDARY

* THE EXPANDED PROJECT BOUNDARY INCLUDES A 200FT BUILDING SETBACK RESTRICTION AND A 100FT VEGETATIVE BUFFER (SEE SHORELINE MANAGEMENT PLAN FOR DETAILS). LANDS EXCLUDED FROM SHORELINE SETBACK ARE DEVELOPED OR RESERVED FOR FUTURE DEVELOPMENT

NOTES:

1) ALL ELEVATIONS ARE U.S.G.S. DATUM

2) PROJECT BOUNDARY AROUND NORTH TWIN IMPOUNDMENT IS EL. 491.92' UNLESS INDICATED OTHERWISE

3) GREAT LAKES HYDRO AMERICA, LLC OWNS IN FEE OR HAS THE FLOWAGE RIGHTS FOR ALL LAND REQUIRED TO OPERATE THE PROJECT

4) FOR PROJECT BOUNDARY AROUND RECREATION AREAS SHOWN ABOVE SEE TABLE A ON EXHIBIT G SHEET 10

5) DUE TO THE NECESSITY TO UPDATE THE ORIGINAL EXHIBIT G-2 DRAWING APPROVED BY FERC TO REMOVE THE AMBAJEJUS BOOM HOUSE FROM THE PROJECT BOUNDARY, THE ORIGINAL G-2 SHEET HAS BEEN REPLACED WITH FOUR SHEETS NUMBERED 2A, 2B, 2C AND 2D IN ORDER TO MEET CURRENT FERC MAPPING REQUIREMENTS.

NAD83 State Plane Maine East US Feet

I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FORTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). SOME LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS.

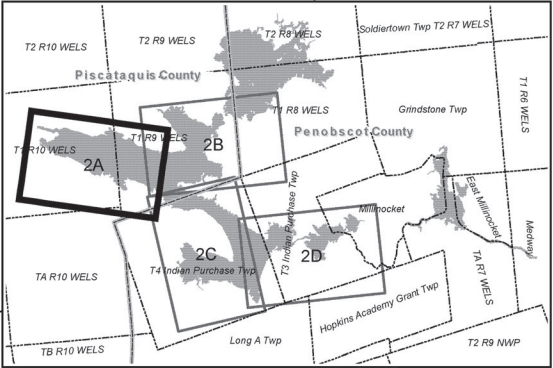


EXHIBIT G-2 PROJECT DETAIL MAP

PENOBSCOT MILLS PROJECT - FERC NO. 2458

PROJECT BOUNDARY MAP

NORTH TWIN DEVELOPMENT

GREAT LAKES HYDRO AMERICA, LLC

MILLINOCKET, MAINE

0 1,000 2,000 Feet

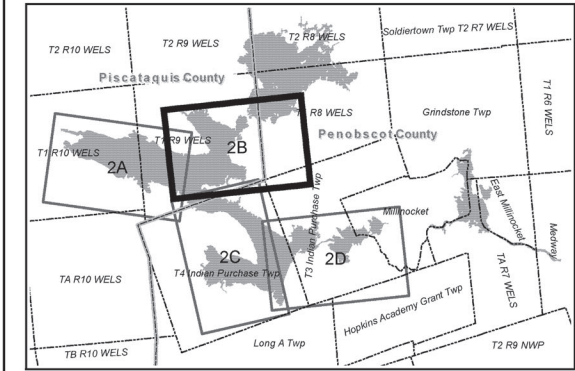
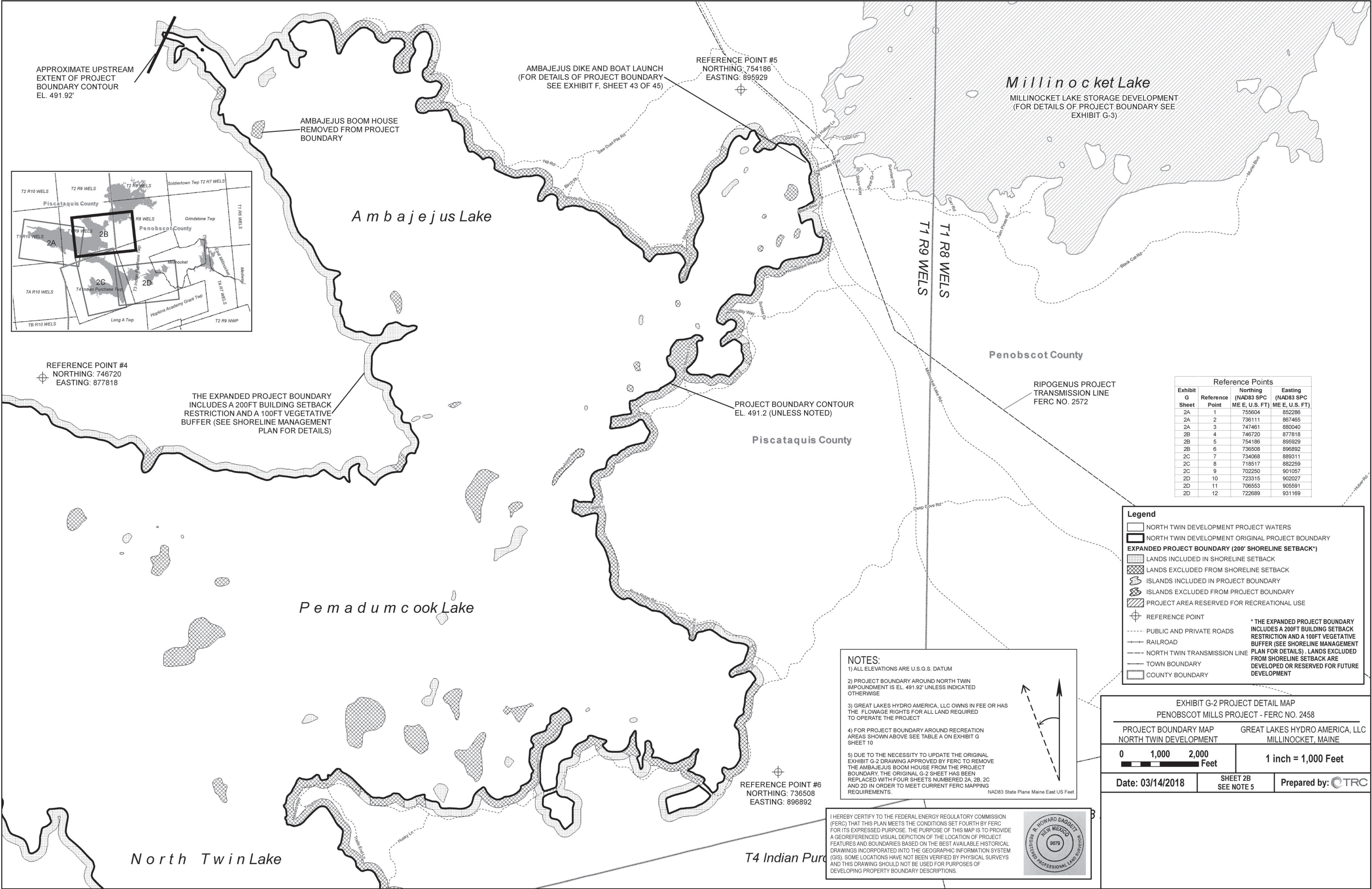
1 inch = 1,000 Feet

Date: 03/14/2018

SHEET 2A

SEE NOTE 5

Prepared by: CTRC



Reference Points			
Exhibit G Sheet	Reference Point	Northing (NAD83 SPC ME E, U.S. FT.)	Easting (NAD83 SPC ME E, U.S. FT.)
2A	1	755604	852286
2A	2	736111	867465
2A	3	747461	880040
2B	4	746720	877818
2B	5	754186	895929
2B	6	736508	896892
2C	7	734068	889311
2C	8	718517	882259
2C	9	702250	901057
2D	10	723315	902027
2D	11	706553	905591
2D	12	722689	931169

Legend

- NORTH TWIN DEVELOPMENT PROJECT WATERS
- NORTH TWIN DEVELOPMENT ORIGINAL PROJECT BOUNDARY
- EXPANDED PROJECT BOUNDARY (200' SHORELINE SETBACK*)
- LANDS INCLUDED IN SHORELINE SETBACK
- LANDS EXCLUDED FROM SHORELINE SETBACK
- ISLANDS INCLUDED IN PROJECT BOUNDARY
- ISLANDS EXCLUDED FROM PROJECT BOUNDARY
- PROJECT AREA RESERVED FOR RECREATIONAL USE
- REFERENCE POINT
- PUBLIC AND PRIVATE ROADS
- RAILROAD
- NORTH TWIN TRANSMISSION LINE
- TOWN BOUNDARY
- COUNTY BOUNDARY

* THE EXPANDED PROJECT BOUNDARY INCLUDES A 200FT BUILDING SETBACK RESTRICTION AND A 100FT VEGETATIVE BUFFER (SEE SHORELINE MANAGEMENT PLAN FOR DETAILS). LANDS EXCLUDED FROM SHORELINE SETBACK ARE DEVELOPED OR RESERVED FOR FUTURE DEVELOPMENT

NOTES:

- ALL ELEVATIONS ARE U.S.G.S. DATUM
- PROJECT BOUNDARY AROUND NORTH TWIN IMPOUNDMENT IS EL. 491.92' UNLESS INDICATED OTHERWISE
- GREAT LAKES HYDRO AMERICA, LLC OWNS IN FEE OR HAS THE FLOWAGE RIGHTS FOR ALL LAND REQUIRED TO OPERATE THE PROJECT
- FOR PROJECT BOUNDARY AROUND RECREATION AREAS SHOWN ABOVE SEE TABLE A ON EXHIBIT G SHEET 10
- DUE TO THE NECESSITY TO UPDATE THE ORIGINAL EXHIBIT G-2 DRAWING APPROVED BY FERC TO REMOVE THE AMBAJEJUS BOOM HOUSE FROM THE PROJECT BOUNDARY, THE ORIGINAL G-2 SHEET HAS BEEN REPLACED WITH FOUR SHEETS NUMBERED 2A, 2B, 2C AND 2D IN ORDER TO MEET CURRENT FERC MAPPING REQUIREMENTS.

NAD83 State Plane Maine East US Feet

I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FORTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). SOME LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS.

EXHIBIT G-2 PROJECT DETAIL MAP
PENOBSCOT MILLS PROJECT - FERC NO. 2458

PROJECT BOUNDARY MAP
NORTH TWIN DEVELOPMENT

GREAT LAKES HYDRO AMERICA, LLC
MILLINOCKET, MAINE

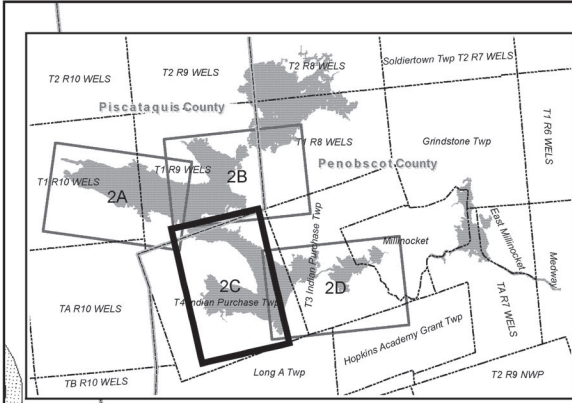
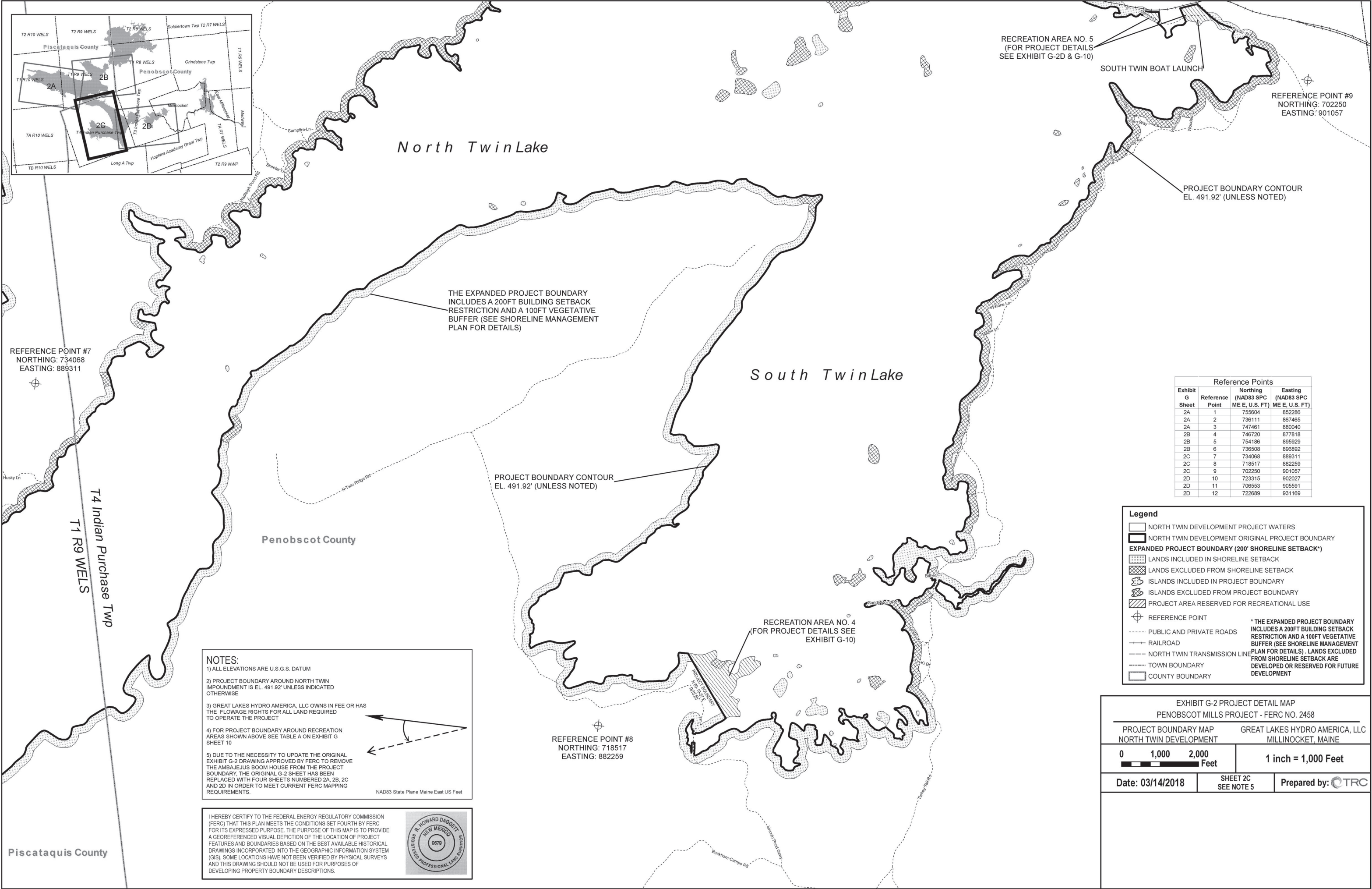
0 1,000 2,000 Feet

1 inch = 1,000 Feet

Date: 03/14/2018

SHEET 2B
SEE NOTE 5

Prepared by:



RECREATION AREA NO. 5
(FOR PROJECT DETAILS
SEE EXHIBIT G-2D & G-10)

SOUTH TWIN BOAT LAUNCH

REFERENCE POINT #9
NORTHING: 702250
EASTING: 901057

PROJECT BOUNDARY CONTOUR
EL. 491.92' (UNLESS NOTED)

THE EXPANDED PROJECT BOUNDARY
INCLUDES A 200FT BUILDING SETBACK
RESTRICTION AND A 100FT VEGETATIVE
BUFFER (SEE SHORELINE MANAGEMENT
PLAN FOR DETAILS)

PROJECT BOUNDARY CONTOUR
EL. 491.92' (UNLESS NOTED)

REFERENCE POINT #7
NORTHING: 734068
EASTING: 889311

South Twin Lake

Penobscot County

T4 Indian Purchase Twp
T1 R9 WELS

RECREATION AREA NO. 4
(FOR PROJECT DETAILS SEE
EXHIBIT G-10)

REFERENCE POINT #8
NORTHING: 718517
EASTING: 882259

NOTES:

1) ALL ELEVATIONS ARE U.S.G.S. DATUM

2) PROJECT BOUNDARY AROUND NORTH TWIN IMPOUNDMENT IS EL. 491.92' UNLESS INDICATED OTHERWISE

3) GREAT LAKES HYDRO AMERICA, LLC OWNS IN FEE OR HAS THE FLOWAGE RIGHTS FOR ALL LAND REQUIRED TO OPERATE THE PROJECT

4) FOR PROJECT BOUNDARY AROUND RECREATION AREAS SHOWN ABOVE SEE TABLE A ON EXHIBIT G SHEET 10

5) DUE TO THE NECESSITY TO UPDATE THE ORIGINAL EXHIBIT G-2 DRAWING APPROVED BY FERC TO REMOVE THE AMBAJEUUS BOOM HOUSE FROM THE PROJECT BOUNDARY, THE ORIGINAL G-2 SHEET HAS BEEN REPLACED WITH FOUR SHEETS NUMBERED 2A, 2B, 2C AND 2D IN ORDER TO MEET CURRENT FERC MAPPING REQUIREMENTS.

NAD83 State Plane Maine East US Feet

I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FORTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). SOME LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS.

R. HOWARD DAGGETT, CO.
REGISTERED PROFESSIONAL LAND SURVEYOR
NEW MEXICO
6679

Reference Points			
Exhibit G Sheet	Reference Point	Northing (NAD83 SPC ME E, U.S. FT)	Easting (NAD83 SPC ME E, U.S. FT)
2A	1	755604	852286
2A	2	736111	867465
2A	3	747461	880040
2B	4	746720	877818
2B	5	754186	895929
2B	6	736508	896892
2C	7	734068	889311
2C	8	718517	882259
2C	9	702250	901057
2D	10	723315	902027
2D	11	706553	905591
2D	12	722689	931169

Legend

- NORTH TWIN DEVELOPMENT PROJECT WATERS
- NORTH TWIN DEVELOPMENT ORIGINAL PROJECT BOUNDARY
- EXPANDED PROJECT BOUNDARY (200' SHORELINE SETBACK*)
- LANDS INCLUDED IN SHORELINE SETBACK
- LANDS EXCLUDED FROM SHORELINE SETBACK
- ISLANDS INCLUDED IN PROJECT BOUNDARY
- ISLANDS EXCLUDED FROM PROJECT BOUNDARY
- PROJECT AREA RESERVED FOR RECREATIONAL USE
- REFERENCE POINT
- PUBLIC AND PRIVATE ROADS
- RAILROAD
- NORTH TWIN TRANSMISSION LINE
- TOWN BOUNDARY
- COUNTY BOUNDARY

* THE EXPANDED PROJECT BOUNDARY INCLUDES A 200FT BUILDING SETBACK RESTRICTION AND A 100FT VEGETATIVE BUFFER (SEE SHORELINE MANAGEMENT PLAN FOR DETAILS). LANDS EXCLUDED FROM SHORELINE SETBACK ARE DEVELOPED OR RESERVED FOR FUTURE DEVELOPMENT

EXHIBIT G-2 PROJECT DETAIL MAP
PENOBSCOT MILLS PROJECT - FERC NO. 2458

PROJECT BOUNDARY MAP
NORTH TWIN DEVELOPMENT

GREAT LAKES HYDRO AMERICA, LLC
MILLINOCKET, MAINE

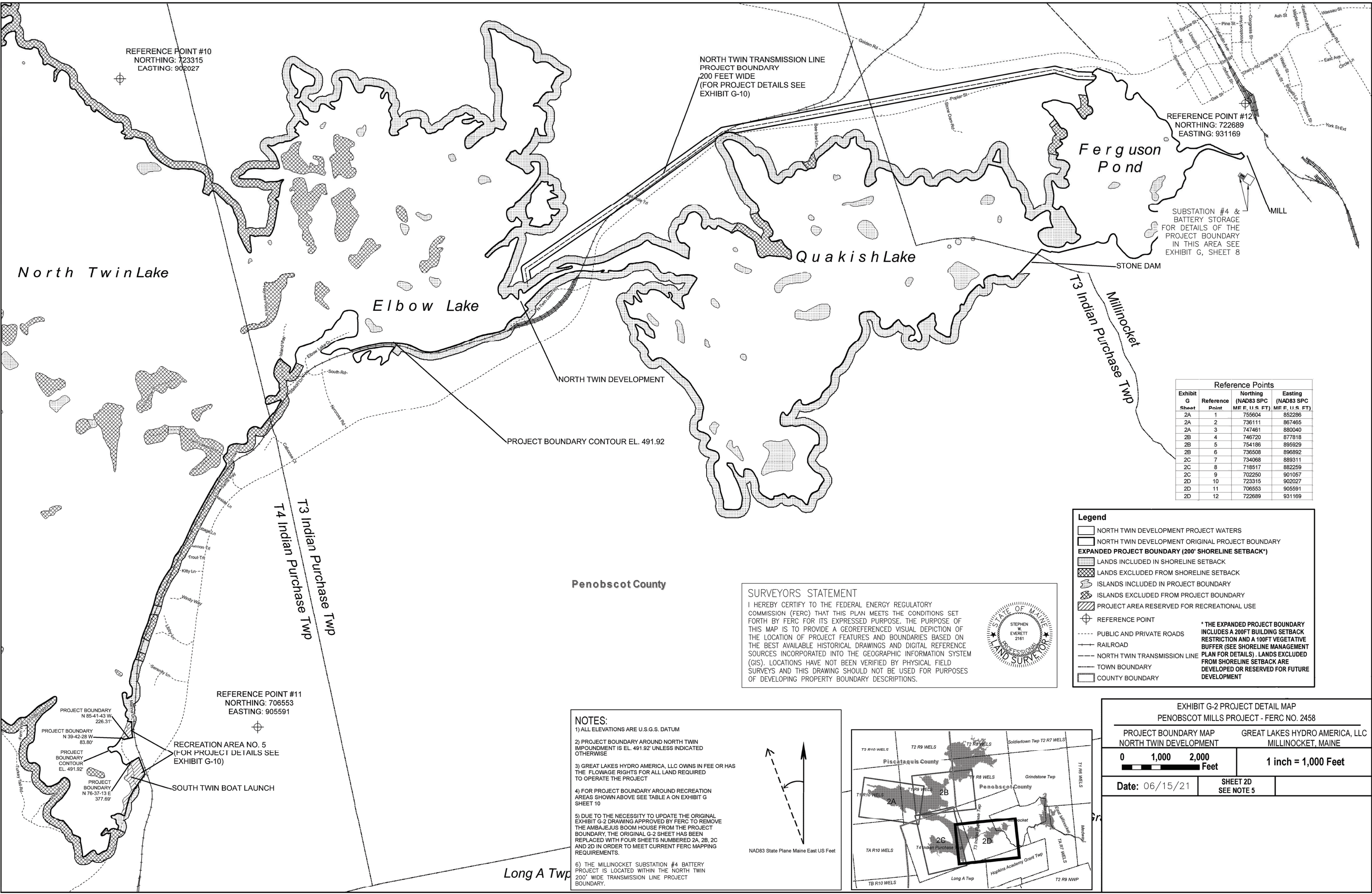
0 1,000 2,000 Feet

1 inch = 1,000 Feet

Date: 03/14/2018

SHEET 2C
SEE NOTE 5

Prepared by: **CTRC**



Reference Points			
Exhibit G Sheet	Reference Point	Northing (NAD83 SPC ME F, U.S. FT)	Easting (NAD83 SPC ME F, U.S. FT)
2A	1	755604	852286
2A	2	736111	867465
2A	3	747461	880040
2B	4	746720	877818
2B	5	754186	895929
2B	6	736508	896892
2C	7	734068	889311
2C	8	718517	882259
2C	9	702250	901057
2D	10	723315	902027
2D	11	706553	905591
2D	12	722689	931169

Legend

- NORTH TWIN DEVELOPMENT PROJECT WATERS
- NORTH TWIN DEVELOPMENT ORIGINAL PROJECT BOUNDARY
- EXPANDED PROJECT BOUNDARY (200' SHORELINE SETBACK*)
- LANDS INCLUDED IN SHORELINE SETBACK
- LANDS EXCLUDED FROM SHORELINE SETBACK
- ISLANDS INCLUDED IN PROJECT BOUNDARY
- ISLANDS EXCLUDED FROM PROJECT BOUNDARY
- PROJECT AREA RESERVED FOR RECREATIONAL USE
- REFERENCE POINT
- PUBLIC AND PRIVATE ROADS
- RAILROAD
- NORTH TWIN TRANSMISSION LINE
- TOWN BOUNDARY
- COUNTY BOUNDARY

* THE EXPANDED PROJECT BOUNDARY INCLUDES A 200FT BUILDING SETBACK RESTRICTION AND A 100FT VEGETATIVE BUFFER (SEE SHORELINE MANAGEMENT PLAN FOR DETAILS). LANDS EXCLUDED FROM SHORELINE SETBACK ARE DEVELOPED OR RESERVED FOR FUTURE DEVELOPMENT

SURVEYORS STATEMENT

I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FORTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS AND DIGITAL REFERENCE SOURCES INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS.



- NOTES:**
- 1) ALL ELEVATIONS ARE U.S.G.S. DATUM
 - 2) PROJECT BOUNDARY AROUND NORTH TWIN IMPOUNDMENT IS EL. 491.92' UNLESS INDICATED OTHERWISE
 - 3) GREAT LAKES HYDRO AMERICA, LLC OWNS IN FEE OR HAS THE FLOWAGE RIGHTS FOR ALL LAND REQUIRED TO OPERATE THE PROJECT
 - 4) FOR PROJECT BOUNDARY AROUND RECREATION AREAS SHOWN ABOVE SEE TABLE A ON EXHIBIT G SHEET 10
 - 5) DUE TO THE NECESSITY TO UPDATE THE ORIGINAL EXHIBIT G-2 DRAWING APPROVED BY FERC TO REMOVE THE AMBAJEJUS BOOM HOUSE FROM THE PROJECT BOUNDARY, THE ORIGINAL G-2 SHEET HAS BEEN REPLACED WITH FOUR SHEETS NUMBERED 2A, 2B, 2C AND 2D IN ORDER TO MEET CURRENT FERC MAPPING REQUIREMENTS.
 - 6) THE MILLINOCKET SUBSTATION #4 BATTERY PROJECT IS LOCATED WITHIN THE NORTH TWIN 200' WIDE TRANSMISSION LINE PROJECT BOUNDARY.

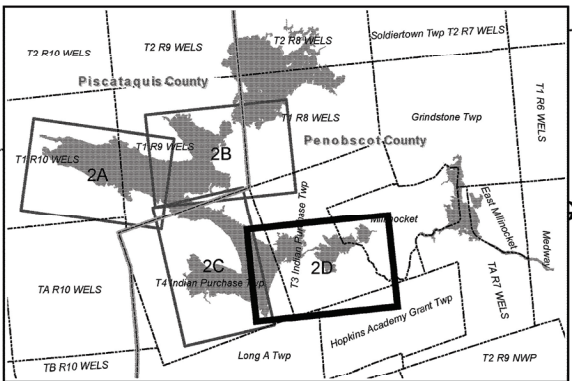
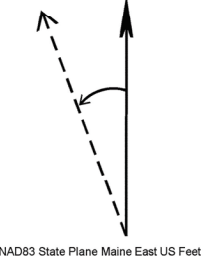


EXHIBIT G-2 PROJECT DETAIL MAP
PENOBSCOT MILLS PROJECT - FERC NO. 2458

PROJECT BOUNDARY MAP
NORTH TWIN DEVELOPMENT

GREAT LAKES HYDRO AMERICA, LLC
MILLINOCKET, MAINE

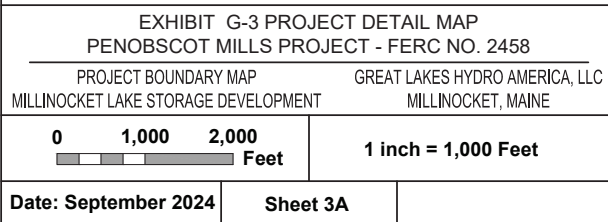
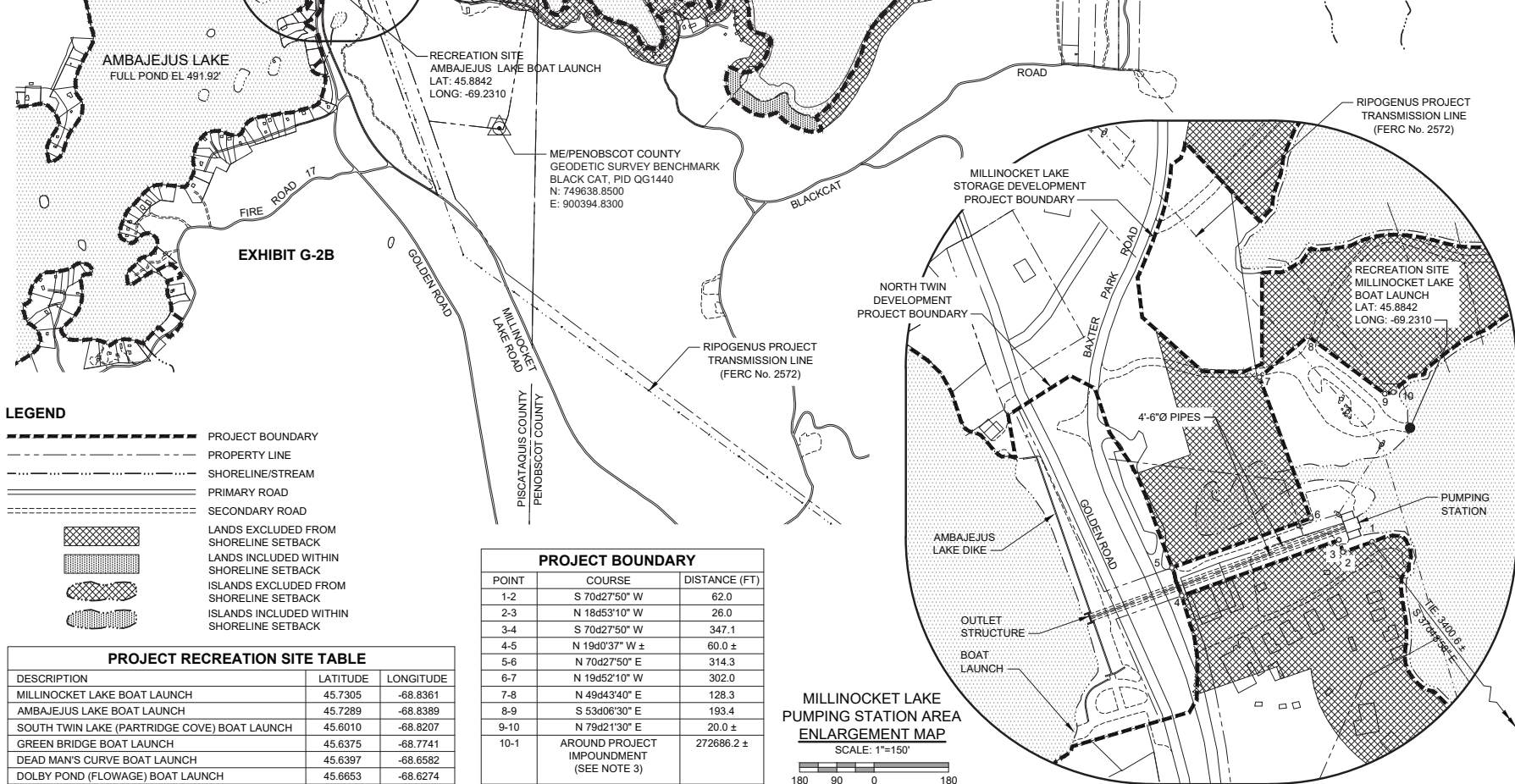
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1 inch = 1,000 Feet

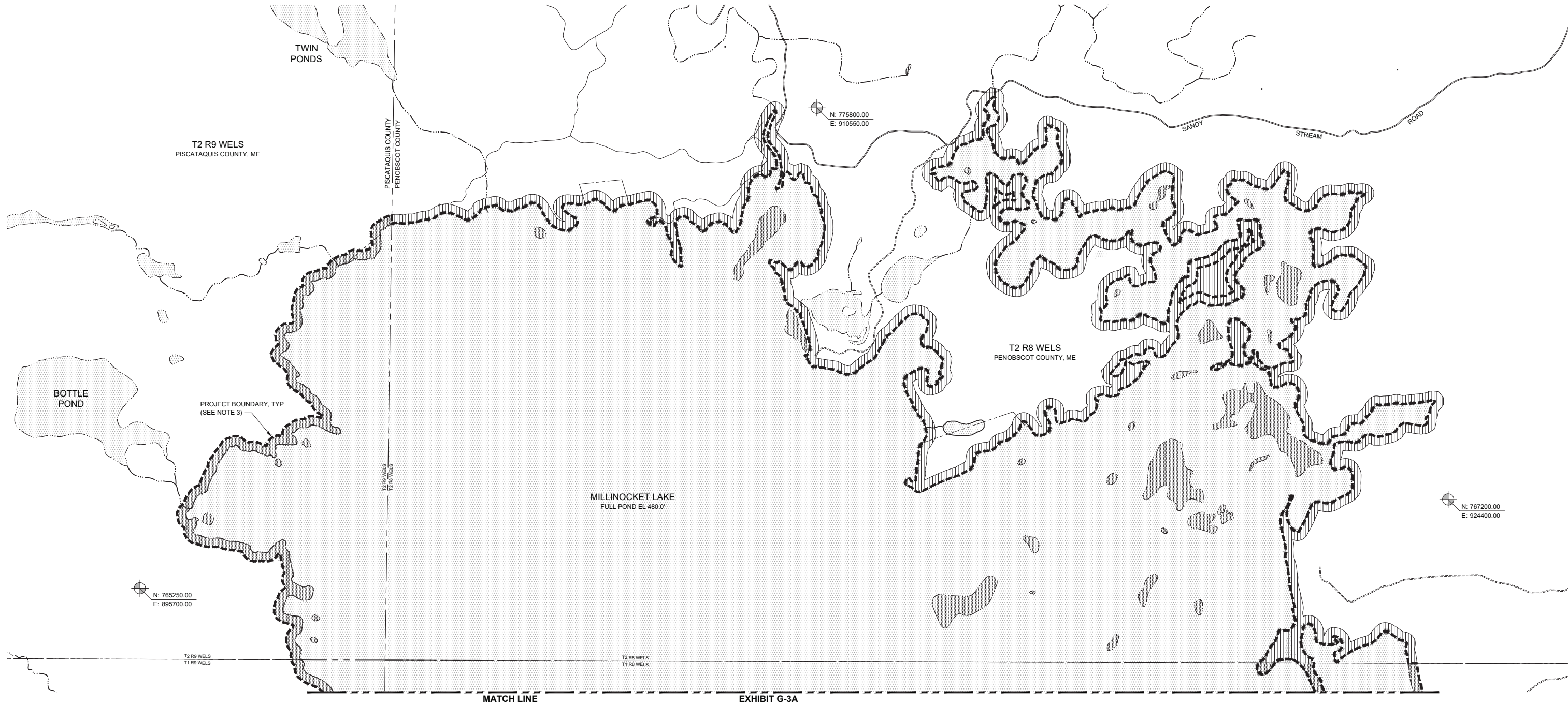
Date: 06/15/21

SHEET 2D
SEE NOTE 5

FERC No. 2458-1099

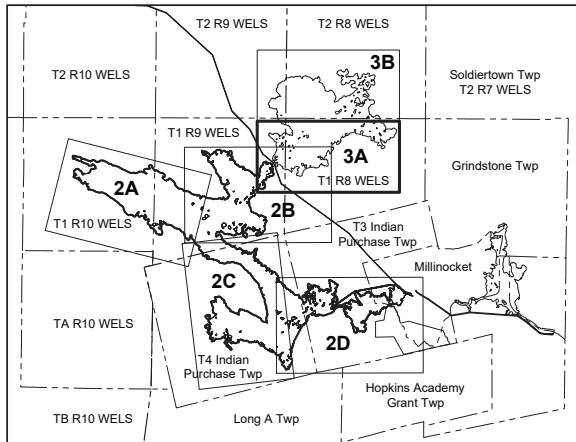


CAD FILENAME: P-2458-XXXX G-3B: PROJECT BOUNDARY MAP, MM-DD-YYYY.DWG



LEGEND

- PROJECT BOUNDARY
- PROPERTY LINE
- SHORELINE/STREAM
- PRIMARY ROAD
- SECONDARY ROAD
- LANDS EXCLUDED FROM SHORELINE SETBACK
- LANDS INCLUDED WITHIN SHORELINE SETBACK
- ISLANDS EXCLUDED FROM SHORELINE SETBACK
- ISLANDS INCLUDED WITHIN SHORELINE SETBACK
- SHORELINE FOR WHICH GLHA HAS DIVIDED INTEREST



PROJECT BOUNDARY TIE DATA

THE PROJECT BOUNDARY IS TIED TO ME/PISCATAQUIS COUNTY GEODETIC SURVEY BENCHMARK BLACK CAT, PID QG1440
N: 752325.2661
E: 898309.8125

TIE POINT 1: 3400.6 ±, S 37°48'58" E

REFERENCE COORDINATE METADATA

PROJECTION - MAINE STATE PLANE
DATUM - NAD83
ZONE - EAST
UNITS - U.S. FOOT

GEOREFERENCE SOURCE DATA

DIGITIZED DATA: © 2024 MICROSOFT CORPORATION EARTHSTAR GEOGRAPHICS SIO

LIDAR ELEVATION DATA: U.S. GEOLOGICAL SURVEY, 20190501, USGS LIDAR POINT CLOUD ME EASTERN B1 LAS 2017: US GEOLOGICAL SURVEY.

PROPERTY DATA: MAINE GEOLIBRARY, JULY 2024, <https://www.maine.gov/geolib/catalog.html>
MAINE PARCELS UNORGANIZED TERRITORY

BOUNDARY DATA: FERC EXHIBIT G, GREAT NORTHERN PAPER, INC. PENOBSCOT MILLS PROJECT BOUNDARY MAPS, 2002.

GENERAL NOTES:

- GREAT LAKES HYDRO AMERICA, LLC OWNS IN FEE OR HAS THE FLOWAGE RIGHTS FOR ALL LAND REQUIRED TO OPERATE THE PROJECT.
- PROJECT BOUNDARY AROUND MILLINOCKET LAKE IS LOCATED 10 FEET HORIZONTAL FROM CONTOUR EL 480.0' UNLESS OTHERWISE NOTED.
- THE EXPANDED PROJECT BOUNDARY INCLUDES A 200-FOOT BUILDING SETBACK RESTRICTION AND A 100-FOOT VEGETATIVE BUFFER ON GLHA-OWNED LAND EXCLUDING LEASED LOTS, DEVELOPED AREAS, OR AREAS RESERVED FOR FUTURE DEVELOPMENT. SEE SHORELINE MANAGEMENT PLAN FOR DETAILS.

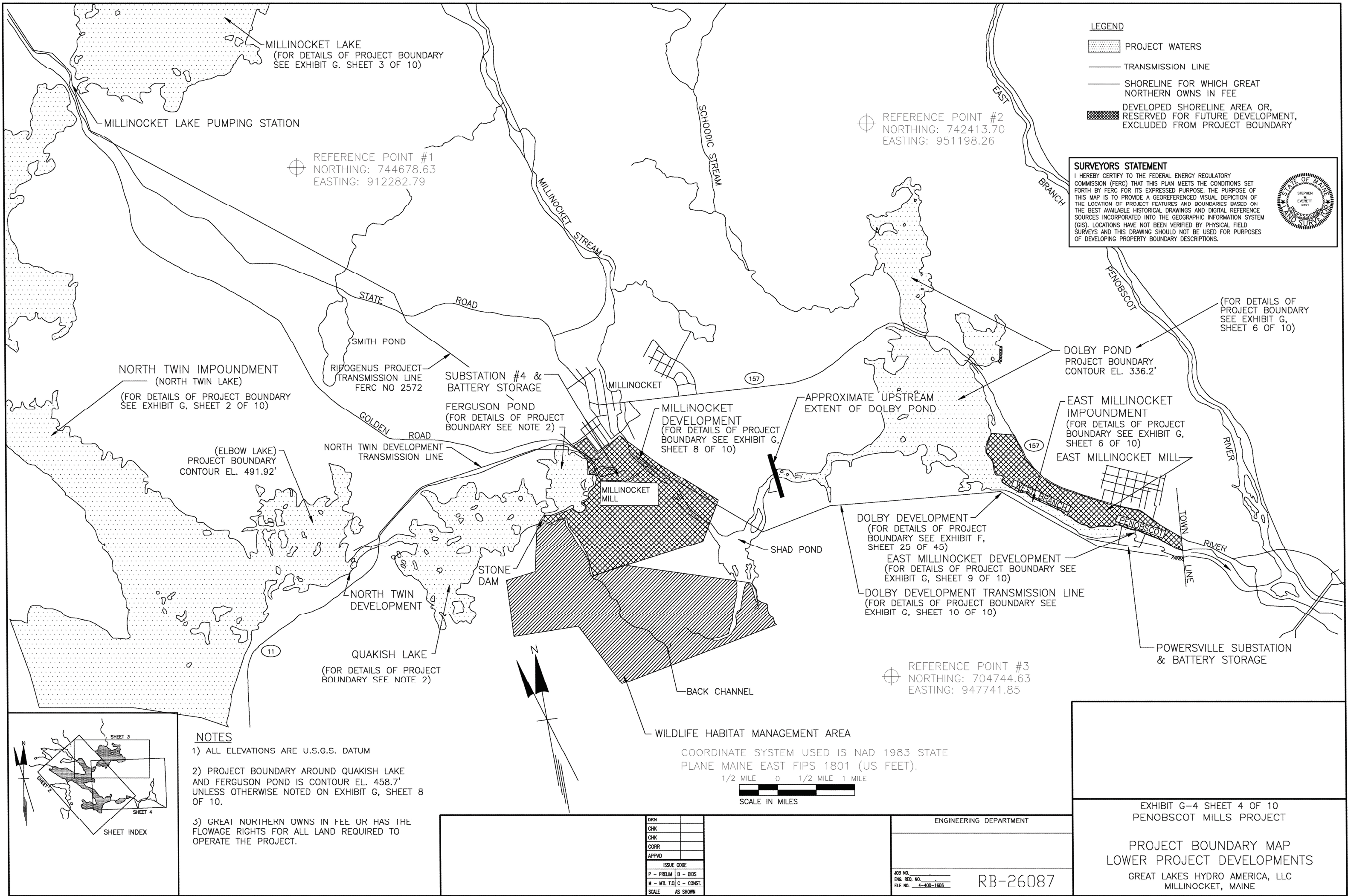
NAD83 State Plane Maine East US Feet

SURVEYORS STATEMENT

I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FORTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS AND DIGITAL REFERENCE SOURCES INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS.



EXHIBIT G-3 PROJECT DETAIL MAP		
PENOBSCOT MILLS PROJECT - FERC NO. 2458		
PROJECT BOUNDARY MAP	GREAT LAKES HYDRO AMERICA, LLC	
MILLINOCKET LAKE STORAGE DEVELOPMENT	MILLINOCKET, MAINE	
0 1,000 2,000 Feet	1 inch = 1,000 Feet	
Date: September 2024	Sheet 3B	



LEGEND

- PROJECT WATERS
- TRANSMISSION LINE
- SHORELINE FOR WHICH GREAT NORTHERN OWNS IN FEE
- DEVELOPED SHORELINE AREA OR, RESERVED FOR FUTURE DEVELOPMENT, EXCLUDED FROM PROJECT BOUNDARY

SURVEYORS STATEMENT

I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FORTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS AND DIGITAL REFERENCE SOURCES INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS.



(FOR DETAILS OF PROJECT BOUNDARY SEE EXHIBIT G, SHEET 6 OF 10)

DOLBY POND
PROJECT BOUNDARY
CONTOUR EL. 336.2'

EAST MILLINOCKET
IMPOUNDMENT
(FOR DETAILS OF PROJECT
BOUNDARY SEE EXHIBIT G,
SHEET 6 OF 10)

EAST MILLINOCKET MILL

DOLBY DEVELOPMENT
(FOR DETAILS OF PROJECT
BOUNDARY SEE EXHIBIT F,
SHEET 25 OF 45)

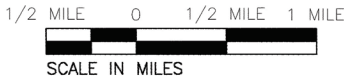
EAST MILLINOCKET DEVELOPMENT
(FOR DETAILS OF PROJECT BOUNDARY SEE
EXHIBIT G, SHEET 9 OF 10)

DOLBY DEVELOPMENT TRANSMISSION LINE
(FOR DETAILS OF PROJECT BOUNDARY SEE
EXHIBIT G, SHEET 10 OF 10)

POWERSVILLE SUBSTATION
& BATTERY STORAGE

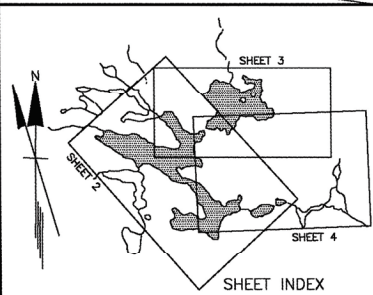
REFERENCE POINT #3
NORTHING: 704744.63
EASTING: 947741.85

COORDINATE SYSTEM USED IS NAD 1983 STATE
PLANE MAINE EAST FIPS 1801 (US FEET).



NOTES

- 1) ALL ELEVATIONS ARE U.S.G.S. DATUM
- 2) PROJECT BOUNDARY AROUND QUAKISH LAKE AND FERGUSON POND IS CONTOUR EL. 458.7' UNLESS OTHERWISE NOTED ON EXHIBIT G, SHEET 8 OF 10.
- 3) GREAT NORTHERN OWNS IN FEE OR HAS THE FLOWAGE RIGHTS FOR ALL LAND REQUIRED TO OPERATE THE PROJECT.



DRN	
CHK	
CHK	
CORR	
APPRD	
ISSUE CODE	
P - PRELIM	B - BIDS
M - MTL. T.O.	C - CONST.
SCALE	AS SHOWN

ENGINEERING DEPARTMENT

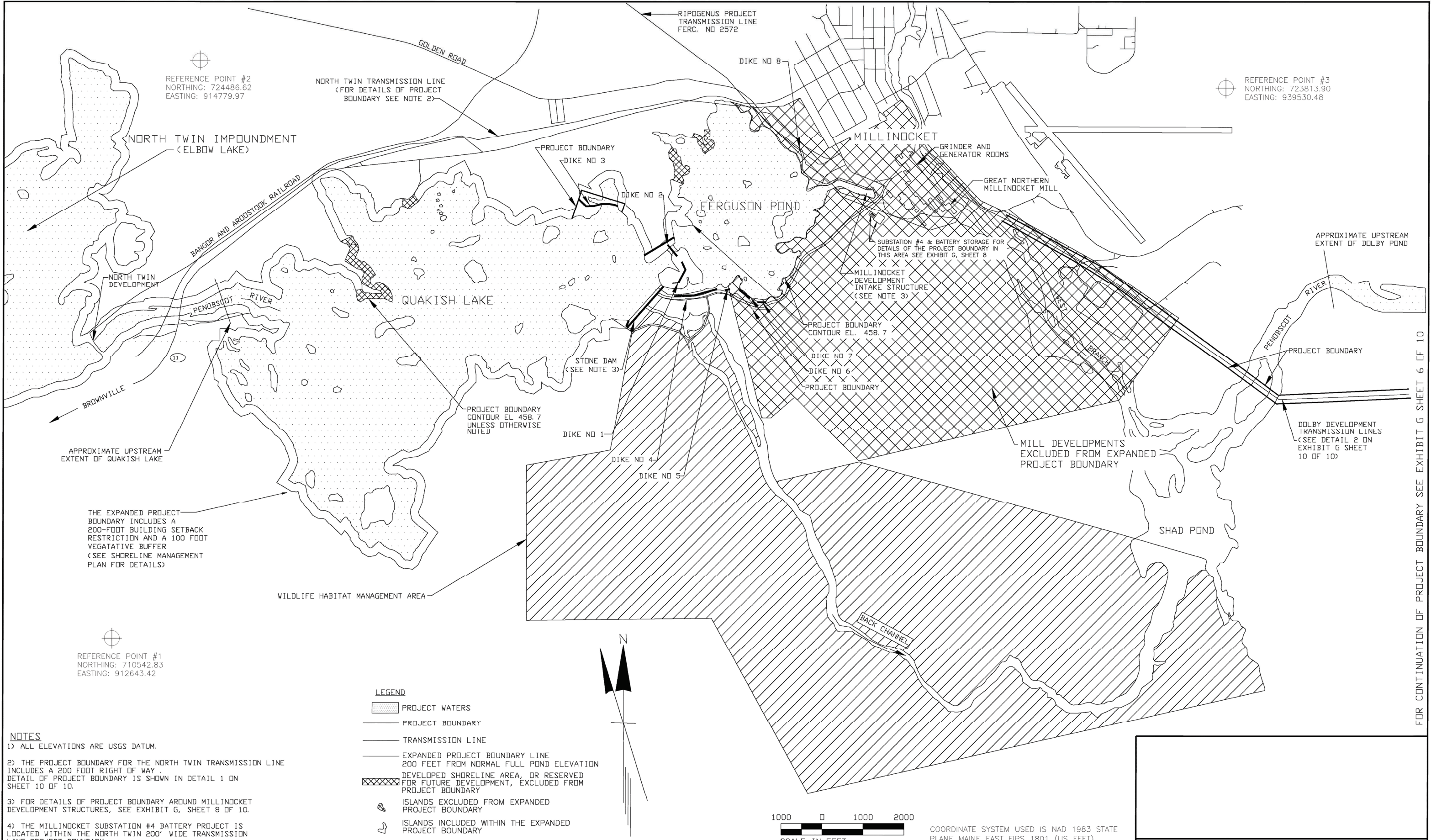
JOB NO.
ENC. REQ. NO.
FILE NO. 4-400-1606

RB-26087

EXHIBIT G-4 SHEET 4 OF 10
PENOBSCOT MILLS PROJECT

PROJECT BOUNDARY MAP
LOWER PROJECT DEVELOPMENTS

GREAT LAKES HYDRO AMERICA, LLC
MILLINOCKET, MAINE



NOTES

1) ALL ELEVATIONS ARE USGS DATUM.

2) THE PROJECT BOUNDARY FOR THE NORTH TWIN TRANSMISSION LINE INCLUDES A 200 FOOT RIGHT OF WAY. DETAIL OF PROJECT BOUNDARY IS SHOWN IN DETAIL 1 ON SHEET 10 OF 10.

3) FOR DETAILS OF PROJECT BOUNDARY AROUND MILLINOCKET DEVELOPMENT STRUCTURES, SEE EXHIBIT G, SHEET 8 OF 10.

4) THE MILLINOCKET SUBSTATION #4 BATTERY PROJECT IS LOCATED WITHIN THE NORTH TWIN 200' WIDE TRANSMISSION LINE PROJECT BOUNDARY.

- LEGEND**
- PROJECT WATERS
 - PROJECT BOUNDARY
 - TRANSMISSION LINE
 - EXPANDED PROJECT BOUNDARY LINE 200 FEET FROM NORMAL FULL POND ELEVATION
 - DEVELOPED SHORELINE AREA, OR RESERVED FOR FUTURE DEVELOPMENT, EXCLUDED FROM PROJECT BOUNDARY
 - ISLANDS EXCLUDED FROM EXPANDED PROJECT BOUNDARY
 - ISLANDS INCLUDED WITHIN THE EXPANDED PROJECT BOUNDARY



COORDINATE SYSTEM USED IS NAD 1983 STATE PLANE MAINE EAST FIPS 1801 (US FEET).

SURVEYORS STATEMENT

I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FORTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS AND DIGITAL REFERENCE SOURCES INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS.

STEPHEN R. EVERETT
2161

DRN	
CHK	
CHK	
CORR	
APPVD	
ISSUE CODE	
P - PRELIM	B - BIDS
M - MTL. T.O.C.	C - CONST.
SCALE	AS SHOWN

ENGINEERING DEPARTMENT	
JOB NO.	
ENG. REQ. NO.	
FILE NO.	4-400-1606

RB-26088

EXHIBIT G-5 SHEET 5 OF 10
PENOBSCOT MILLS PROJECT
MILLINOCKET DEVELOPMENT
PROJECT BOUNDARY DETAIL SHEET

GREAT LAKES HYDRO AMERICA, LLC
MILLINOCKET, MAINE

REFERENCE POINT #1
NORTHING: 726629.27
EASTING: 941926.22

THE EXPANDED PROJECT
BOUNDARY INCLUDES A
200-FOOT BUILDING SETBACK
RESTRICTION AND A 100-FOOT
VEGETATIVE BUFFER
(SEE SHORELINE MANAGEMENT
PLAN FOR DETAILS)

REFERENCE POINT #3
NORTHING: 723289.76
EASTING: 962307.08

MILLINOCKET ROUTE 157

PROJECT BOUNDARY
CONTOUR EL. 336.2

DOLBY POND

APPROXIMATE UPSTREAM EXTENT
OF DOLBY POND

REFERENCE POINT #2
NORTHING: 718183.35
EASTING: 949005.65

SURVEYORS STATEMENT

I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY
COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET
FORTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF
THIS MAP IS TO PROVIDE A GEOREFERENCED VISUAL DEPICTION OF
THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON
THE BEST AVAILABLE HISTORICAL DRAWINGS AND DIGITAL REFERENCE
SOURCES INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM
(GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL FIELD
SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES
OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS.



DOLBY DEVELOPMENT
TRANSMISSION LINES
(SEE DETAIL 2 ON
EXHIBIT G, SHEET 10
OF 10)

PROJECT BOUNDARY
(SEE DETAIL 2 ON
EXHIBIT G, SHEET 10
OF 10)

DOLBY DEVELOPMENT
TRANSMISSION LINES
(SEE DETAILS OF PROJECT
BOUNDARY ON EXHIBIT F,
SHEET 25 OF 45)

DOLBY DEVELOPMENT
TRANSMISSION LINES
(SEE DETAIL 3 ON EXHIBIT
G, SHEET 10 OF 10)

PROJECT BOUNDARY
(SEE DETAIL 3 ON EXHIBIT
G, SHEET 10 OF 10)

PROJECT BOUNDARY
CONTOUR EL. 287.2

TOWN OF
EAST MILLINOCKET

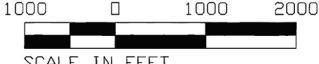
EAST MILLINOCKET
DEVELOPMENT

FOR DETAILS OF PROJECT
BOUNDARY IN THIS AREA
SEE EXHIBIT G, SHEET 9
OF 10)

TRANSMISSION LINES TO
MATTACEUNK PROJECT
FERC NO. 2520

POWERSVILLE SUBSTATION & BATTERY
STORAGE. FOR DETAILS OF THE
PROJECT BOUNDARY IN THIS AREA
SEE EXHIBIT G, SHEET 9

COORDINATE SYSTEM USED IS NAD 1983 STATE
PLANE MAINE EAST FIPS 1801 (US FEET).



LEGEND

- PROJECT BOUNDARY
- PROJECT WATERS
- EXPANDED PROJECT BOUNDARY
200' FROM NORMAL FULL POND ELEV.
- ISLANDS EXCLUDED FROM EXPANDED
PROJECT BOUNDARY
- ISLANDS INCLUDED WITHIN THE EXPANDED
PROJECT BOUNDARY
- DEVELOPED SHORELINE AREA, OR RESERVED
FOR FUTURE DEVELOPMENT, EXCLUDED FROM
PROJECT BOUNDARY

1) THE POWERSVILLE BATTERY
PROJECT IS LOCATED WITHIN THE
DOLBY AND EAST MILLINOCKET
200' WIDE TRANSMISSION LINE
PROJECT BOUNDARY.

NOTES
1) ALL ELEVATIONS ARE USGS DATUM

WILDLIFE HABITAT MANAGEMENT AREA

BACK CHANNEL

DRN	
CHK	
CHK	
CORR	
APPVD	
ISSUE CODE	
P - PRELIM	B - BIDS
M - MTL T.O.C	C - CONGT.
SCALE	AS SHOWN

ENGINEERING DEPARTMENT

JOB NO.
ENG. REQ. NO.
FILE NO. 4-400-1606

RB-26089

EXHIBIT G-6 SHEET 6 OF 10
PENOBSCOT MILLS PROJECT
DOLBY AND EAST MILLINOCKET DEVELOPMENTS
PROJECT BOUNDARY DETAIL SHEET

GREAT LAKES HYDRO AMERICA, LLC
MILLINOCKET, MAINE

REFERENCE POINT #1
NORTHING: 723540.23
EASTING: 923744.33

NORTH TWIN TRANSMISSION
LINE (SEE NOTE 4)

ROUTE 11
TO MILLINOCKET
RIPOGENUS PROJECT
TRANSMISSION LINE
FERC NO 2572

REFERENCE POINT #2
NORTHING: 723257.58
EASTING: 930371.69

ACCESS ROAD
(SEE NOTE 3)

ACCESS ROAD
(SEE NOTE 3)

THE EXPANDED PROJECT
BOUNDARY INCLUDES A
200-FOOT BUILDING SETBACK
RESTRICTION AND A 100-FOOT
VEGETATIVE BUFFER
(SEE SHORELINE MANAGEMENT
PLAN FOR DETAILS)

PROJECT BOUNDARY

PROJECT
BOUNDARY
CONTOUR
EL. 458.7

DIKE NO 3

100'

100'

PROJECT BOUNDARY
CONTOUR EL. 458.7

100'

DIKE NO 2

QUAKISH LAKE

DIKE NO 1

GATEHOUSE

WASTEGATE STRUCTURE

STONE DAM

100'

100'

PROJECT BOUNDARY
CONTOUR EL. 458.7

FERGUSON POND

REFERENCE POINT #3
NORTHING: 720441.93
EASTING: 927640.98

DIKE NO 8

PROJECT BOUNDARY

PENSTOCKS
(SEE NOTE 2)

100' FROM C

100

MILLINOCKET
DEVELOPMENT
INTAKE STRUCTURE

PROJECT BOUNDARY

LAST POLE RIPOGENUS
TRANSMISSION LINE

BATTERY STORAGE

SUBSTATION #4

ACCESS ROAD
(SEE NOTE 3)

PROJECT BOUNDARY
CONTOUR EL. 458.7

LEGEND

PROJECT WATERS

TRANSMISSION LINE

PROJECT BOUNDARY

EXPANDED PROJECT BOUNDARY
200 FT. FROM NORMAL
FULL POND ELEV.

DEVELOPED SHORELINE AREA, OR
RESERVED FOR FUTURE DEVELOPMENT,
EXCLUDED FROM PROJECT BOUNDARY

WILDLIFE HABITAT MANAGEMENT AREA

100'

100'

100'

100'

100'

100'

100'

100'

100'

100'

100'

100'

100'

100'

COORDINATE SYSTEM USED IS NAD 1983 STATE
PLANE MAINE EAST FIPS 1801 (US FEET).

300 0 300 600
SCALE IN FEET

NOTES

- 1) ALL ELEVATIONS ARE U. S. G. S. DATUM.
- 2) THE PROJECT INCLUDES THE PENSTOCKS AND THE RIGHT TO MAINTAIN THE PENSTOCKS BUT DOES NOT INCLUDE THE LAND OVER THEM.
- 3) THE PROJECT INCLUDES THE RIGHT OF ACCESS AND EGRESS ACROSS GREAT NORTHERN LANDS, ALONG EXISTING TRAVELED WAYS, TO AND FROM THE PROJECT STRUCTURES.
- 4) THE PROJECT BOUNDARY FOR THE NORTH TWIN TRANSMISSION LINE INCLUDES A 200 FOOT RIGHT OF WAY.
- 5) THE MILLINOCKET MILL HAS THE RIGHT TO WITHDRAW WATER, AS NECESSARY, FOR THE OPERATION OF THE STEAM PLANT AND MILL, AND THE RIGHT OF ACCESS FOR OPERATION AND MAINTENANCE OF MILL WATER INTAKE STRUCTURES. THE LOCATION OF THE MILL WATER INTAKE IS SHOWN ON EXHIBIT F, SHEET 19 OF 45.
- 6) THE TOWN OF MILLINOCKET HAS THE RIGHT TO WITHDRAW WATER, AS NECESSARY, AND THE RIGHT OF ACCESS FOR OPERATION AND MAINTENANCE OF THE INTAKE STRUCTURE AND ASSOCIATED PIPING.
- 7) THE MILLINOCKET SUBSTATION #4 BATTERY PROJECT IS LOCATED WITHIN THE FERC PROJECT BOUNDARY.

SURVEYORS STATEMENT

I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FORTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOGRAPHIC VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS AND DIGITAL REFERENCE SOURCES INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS.



DRN	
CHK	
CHK	
CORR	
APPVD	
ISSUE CODE	
P - PRELIM	B - BIDS
M - MTL T.O.C	- CONST.
SCALE	AS SHOWN

ENGINEERING DEPARTMENT

JOB NO.
ENG. PROJ. NO.
FILE NO.

RB-26091

EXHIBIT G-8 SHEET 8 OF 10
PENOBSCOT MILLS PROJECT
MILLINOCKET DEVELOPMENT
FERGUSON POND DETAIL SHEET

GREAT LAKES HYDRO AMERICA, LLC
MILLINOCKET, MAINE

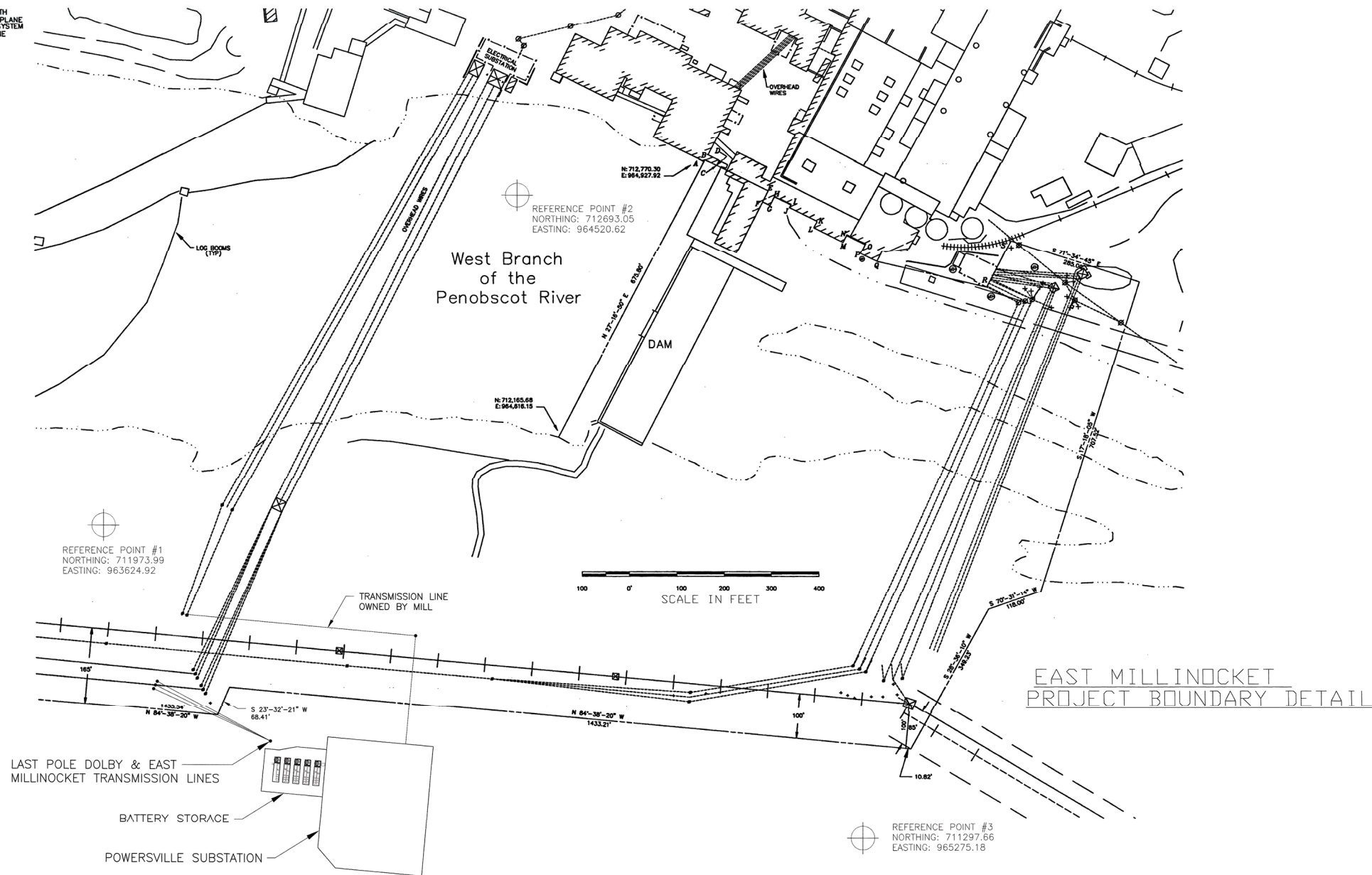
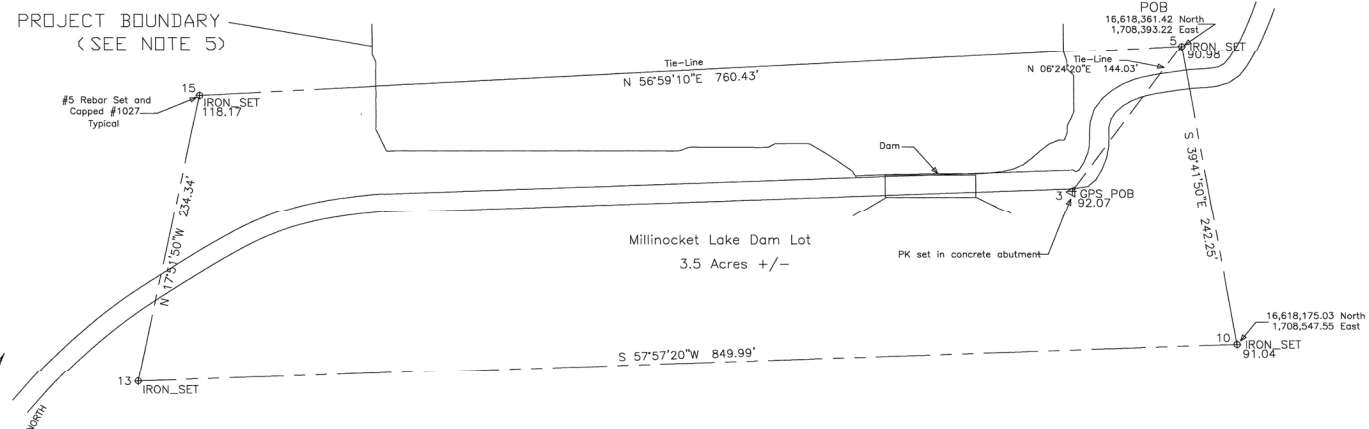


TABLE A PROJECT BOUNDARY BEARING & DISTANCE TABLE		
A TO B	N 26°-49'-07" E	4.48'
B TO C	S 63°-23'-29" E	27.79'
C TO D	N 26°-18'-08" E	0.66'
D TO E	S 63°-12'-08" E	121.80'
E TO F	S 26°-28'-32" W	27.00'
F TO G	S 63°-31'-28" E	17.30'
G TO H	N 26°-23'-29" E	21.13'
H TO I	S 63°-16'-08" E	39.42'
I TO J	S 29°-26'-02" W	6.44'
J TO K	S 63°-16'-08" E	65.98'
K TO L	S 24°-59'-05" W	15.57'
L TO M	S 62°-57'-12" E	68.70'
M TO N	N 26°-39'-25" E	16.50'
N TO O	S 63°-20'-35" E	43.90'
O TO P	S-26°-39'-25" W	22.90'
P TO Q	S 63°-20'-35" E	38.49'
Q TO R	S 76°-32'-03" E	238.36'
R TO S	N 27°-20'-25" E	114.85'

- NOTES**
- 1) ALL ELEVATIONS ARE U. S. G. S. DATUM.
 - 2) THE PROJECT BOUNDARY FOR THE TRANSMISSION SYSTEM INCLUDES:
 - A. THE POLES, CONDUCTORS AND ASSOCIATED EQUIPMENT.
 - B. THE RIGHT OF ACCESS AND EGRESS ACROSS OPERATION AND MAINTENANCE OF THE SYSTEM.
 - 3) THE PROJECT BOUNDARY FOR THE 60 HZ. TRANSMISSION HZ. EAST MILLINOCKET SUBSTATION.
 - 4) THE PROJECT BOUNDARY FOR THE 40 HZ. TRANSMISSION HZ. EAST MILLINOCKET SUBSTATION.
 - 5) THE PROJECT BOUNDARY FOR MILLINOCKET LAKE IS LOCATED 10 FEET HORIZONTAL OUTSIDE THE EL. 480.0' CONTOUR, UNLESS OTHERWISE NOTED.
 - 6) FOR THE LOCATION OF THE MILLINOCKET LAKE DAM, SEE EXHIBIT 3 OF 10.
 - 7) THE POWERSVILLE BATTERY PROJECT IS LOCATED WITHIN THE FERC PROJECT BOUNDARY.



- LEGEND**
- PROJECT BOUNDARY
 - TRANSMISSION LINES

SURVEYORS STATEMENT

I HEREBY CERTIFY TO THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) THAT THIS PLAN MEETS THE CONDITIONS SET FORTH BY FERC FOR ITS EXPRESSED PURPOSE. THE PURPOSE OF THIS MAP IS TO PROVIDE A GEOFERENCED VISUAL DEPICTION OF THE LOCATION OF PROJECT FEATURES AND BOUNDARIES BASED ON THE BEST AVAILABLE HISTORICAL DRAWINGS AND DIGITAL REFERENCE SOURCES INCORPORATED INTO THE GEOGRAPHIC INFORMATION SYSTEM (GIS). LOCATIONS HAVE NOT BEEN VERIFIED BY PHYSICAL FIELD SURVEYS AND THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OF DEVELOPING PROPERTY BOUNDARY DESCRIPTIONS.



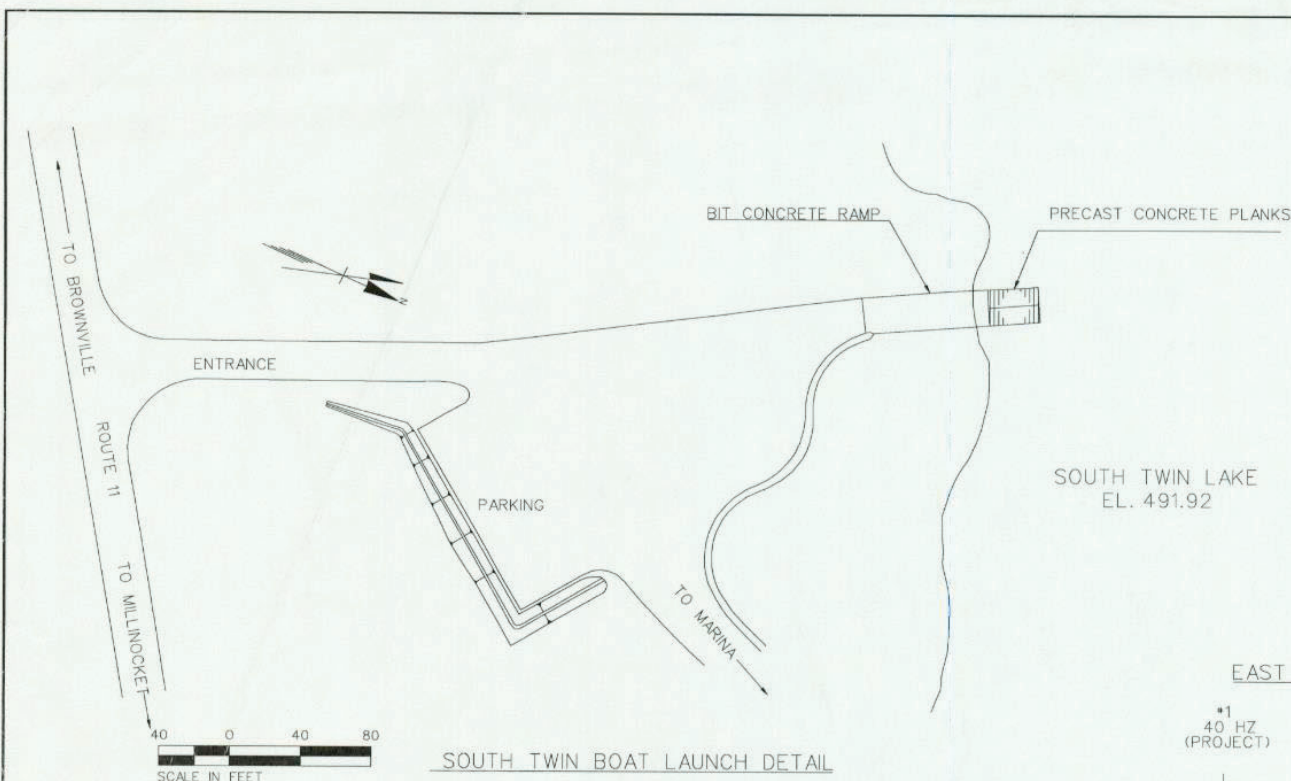
SCALE IN FEET
120 60 0 120

COORDINATE SYSTEM USED IS NAD 1983 STATE PLANE MAINE EAST FIPS 1801 (US FEET).

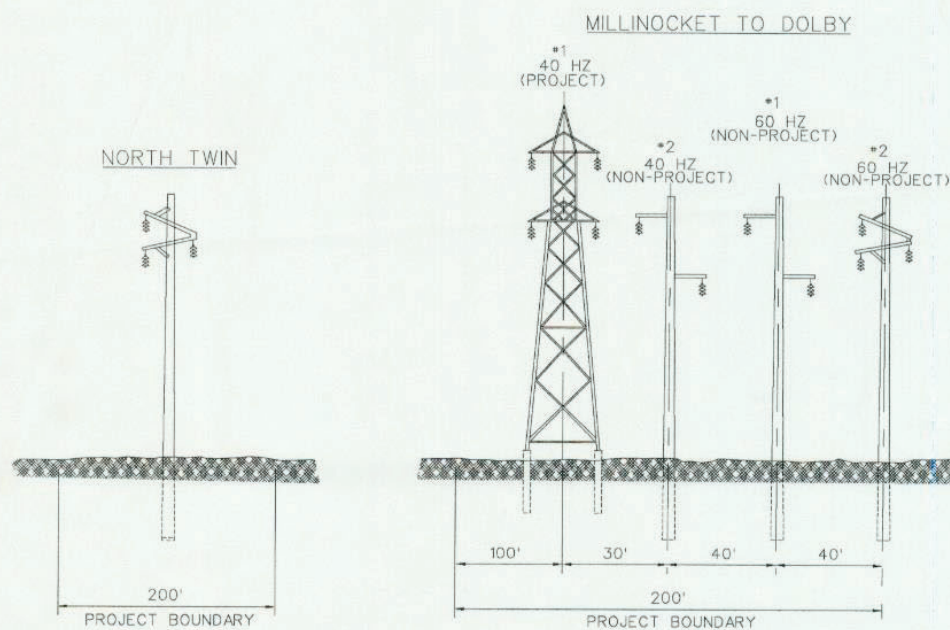
DRN	
CHK	
CHK	
CORR	
APPVD	
ISSUE CODE	
P - PRELIM	B - BIDS
M - MTL T.O.C	- CONST.
SCALE AS SHOWN	

CENTRAL ENGINEERING DEPARTMENT	
JOB NO.	RB-26092
ENG. REQ. NO.	
FILE NO.	4-400-1606

EXHIBIT G-9 SHEET 9 OF 10
PENOBSCOT MILLS PROJECT
EAST MILLINOCKET DEVELOPMENT
MILLINOCKET LAKE STORAGE DEVELOPMENT
PROJECT BOUNDARY DETAIL SHEET
GREAT LAKES HYDRO AMERICA, LLC
MILLINOCKET, MAINE

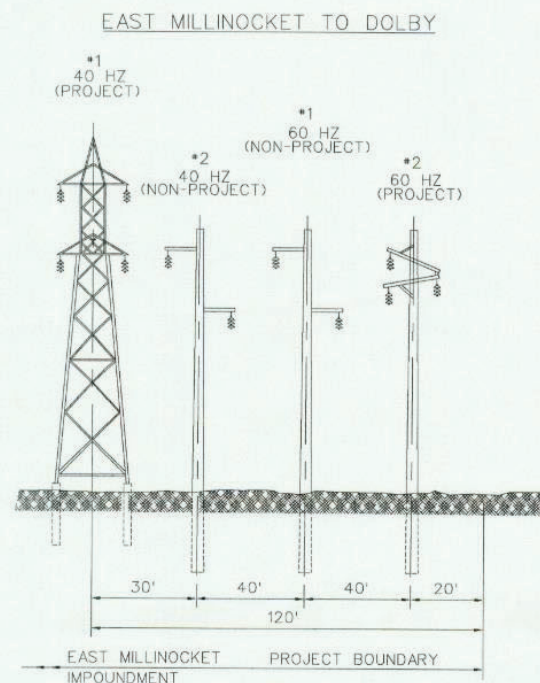


SOUTH TWIN BOAT LAUNCH DETAIL



DETAIL 1
NOT TO SCALE C-6

DETAIL 2
NOT TO SCALE G-7



DETAIL 3
NOT TO SCALE G-7

TABLE A
NORTH TWIN DEVELOPMENT RECREATION AREAS PROJECT BOUNDARY DETAILS

- AREA NO. 1 THE PROJECT BOUNDARY LEAVES THE EL. 491.92 'CONTOUR AT A CEDAR POST SET AT THE HIGH WATER LINE LOCATED APPROXIMATELY SOUTH-WESTERLY 1,600 FEET ALONG THE SHORE FROM THE POINT OF LAND ON THE SOUTH SIDE OF NAHMAKANTA STREAM AND EXTENDS WESTERLY APPROXIMATELY 2,400 FEET TO ANOTHER CEDAR POST SET AT THE HIGH WATER LINE, THENCE ALONG THE EL. 491.92 'CONTOUR AROUND THE LAKE. AREA APPROXIMATELY 20 ACRES.
- AREA NO. 2 THE PROJECT BOUNDARY LEAVES THE ELEVATION 491.92' CONTOUR AT A CEDAR POST SET AT THE HIGH WATER LINE APPROXIMATELY 3,200 FEET EASTERLY ALONG THE SHORE FROM THE WEST BOUNDARY OF T1R9 AND EXTENDS IN AN EASTERLY DIRECTION APPROXIMATELY 800 FEET TO ANOTHER CEDAR POST ON THE HIGH WATER LINE, THENCE ALONG THE EL. 491.92 'CONTOUR AROUND THE LAKE. AREA APPROXIMATELY 25 ACRES.
- AREA NO. 3 THIS AREA HAS BEEN EXCLUDED FROM THE PROJECT BOUNDARY.
- AREA NO. 4 THE PROJECT BOUNDARY LEAVES THE EL. 491.92 'CONTOUR AT A CEDAR POST ON THE SOUTH SIDE OF THE PENINSULA AT THE WEST END OF SOUTH TWIN LAKE AND EXTENDS NORTHEAST APPROXIMATELY 1600 FEET TO A CEDAR POST ON THE NORTH SIDE, THENCE ALONG THE EL. 491.92 'CONTOUR AROUND THE LAKE. AREA APPROXIMATELY 37 ACRES. EXISTING LEASE WITHIN AREA IS EXCLUDED FROM PROJECT BOUNDARY.
- AREA NO. 5 THE PROJECT BOUNDARY LEAVES THE EL. 491.92 'CONTOUR AT THE NORTHERLY BOUNDARY OF CAMP LOT 125A AND RUNS ALONG THIS BOUNDARY TO THE STATE HIGHWAY RIGHT OF WAY. IT THEN TURNS NORTHERLY ALONG THE RIGHT OF WAY APPROXIMATELY 1,800 FEET TO THE BANGOR AND AROOSTOOK RAILROAD RIGHT OF WAY. IT THEN FOLLOWS THE RAILROAD RIGHT OF WAY IN A NORTHERLY DIRECTION TO THE SOUTHERN BOUNDARY OF LOT 424. IT THEN TURNS WEST ALONG THE BOUNDARY OF LOT 424 APPROXIMATELY 150 FEET TO THE EL. 491.92 'CONTOUR, THENCE BY THE 491.92 'CONTOUR AROUND THE LAKE. AREA APPROXIMATELY 19 ACRES. EXISTING LEASE WITHIN AREA IS EXCLUDED FROM PROJECT BOUNDARY.

NOTES

- 1) ALL ELEVATIONS ARE USGS DATUM.
- 2) THE PROJECT BOUNDARY FOR THE TRANSMISSION SYSTEM INCLUDES
A THE POLES, CONDUCTORS AND ASSOCIATED EQUIPMENT.
B THE RIGHT OF ACCESS AND EGRESS ACROSS GREAT NORTHERN LAND FOR THE PURPOSE OF OPERATION AND MAINTENANCE OF THE SYSTEM.

LAST TRANSMISSION TOWER BEFORE THE EAST MILLINOCKET SUBSTATION.

LEGEND

PROJECT WATERS

Great Northern
PAPER, INC.

DRN	
CHK	
CHK	
CHK	
APPV	
ISSUE CODE	
P - PRELIM	B - BIDS
M - MTL T.O.	C - CONST.
SCALE	AS SHOWN

BY *Devin Durbin* 4/4/02
GNE, LLC

ENGINEERING DEPARTMENT

RB-26093

EXHIBIT G-10 SHEET 10 OF 10
PENOBSCOT MILLS PROJECT

MISCELLANEOUS PROJECT BOUNDARY
DETAILS

GREAT NORTHERN PAPER, INC.
MILLINOCKET, MAINE

FINAL LICENSE APPLICATION

EXHIBIT H

DESCRIPTION OF PROJECT MANAGEMENT AND NEED FOR POWER

RIPOGENUS HYDROELECTRIC PROJECT (FERC NO. 2572)

PENOBSCOT MILLS HYDROELECTRIC PROJECT (FERC NO. 2458)



GREAT LAKES HYDRO AMERICA, LLC

Millinocket, Maine

September 30, 2024

RIPOGENUS HYDROELECTRIC PROJECT (FERC NO. 2572)
PENOBSCOT MILS HYDROELECTRIC PROJECT (FERC NO. 2458)
FINAL LICENSE APPLICATION
EXHIBIT H – DESCRIPTION OF PROJECT MANAGEMENT AND NEED
FOR POWER

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Exhibit H

Description of Project Management and Need for Project Power

The Ripogenus Hydroelectric Project and the Penobscot Mills Hydroelectric Project (Projects) are existing hydroelectric projects owned by, and licensed to, Great Lakes Hydro America, LLC (“GLHA” or “Licensee”). The Licensee is an independent power producer and, as such, does not provide electric service to any particular group or class of customers. The Projects generate clean, carbon-free, renewable power that is currently sold to the New England wholesale market administered by the non-profit Independent System Operator of New England (ISONE). ISONE administers all significant aspects of the New England Power Pool (NEPOOL) power market including: (1) the NEPOOL Open Access Transmission Tariff; (2) the dispatch, billing, and settlement system for interchange power in NEPOOL; (3) NEPOOL energy and automatic generation control markets; and (4) the NEPOOL installed capability market.

1.0 Plans and Ability of Applicant to Operate and Maintain the Projects

1.1 Plans to Increase Capacity or Generation

GLHA is not proposing an increase to the capacity or generation of the Projects. However, as economic conditions change, GLHA routinely performs periodic evaluations of generating facilities regarding potential upgrades and will continue to do so into the future.

1.2 Plans to Coordinate the Operation of the Projects with Other Water Resource Projects

The operation of the Ripogenus Project serves as a re-regulating impoundment that works in coordination with the upstream Storage Project (FERC No. 2634) and the downstream North Twin and Millinocket Lake Developments (of the Penobscot Mills Project) to maximize the balancing of downstream flows and water levels in support of flood control, public safety, dam safety, supplemental flows during seasonal low-flow periods, fish spawning and migration, recreation, whitewater boating, water quality, local electrical grid stability, and baseload renewable energy generation.

Additionally, there are seven other Federal Energy Regulatory Commission (“FERC” or “Commission”)-licensed hydroelectric or storage projects in the Penobscot River Basin (Table 1.2-1). The operations for these Projects are established by each projects’ existing FERC licenses.

**TABLE 1.2-1
MAJOR HYDROELECTRIC AND STORAGE PROJECTS LOCATED IN THE
PENOBSCOT RIVER BASIN**

Name	FERC Project No.	Licensees*	Capacity (MW)	Water Body
Storage Project • Canada Falls Development • Seboomook Lake Development • Ragged Lake Development • Caucomgomoc Lake Development • Penobscot Lake Development • Loon Lake Development • Dole Pond Development • Long Pond Development • Harrington Lake Development	P-2634	GLHA	Storage	West Branch
Ripogenus Hydroelectric Project	P-2572	GLHA	37.5	West Branch
Penobscot Mills Hydroelectric Project • Millinocket Lake Storage Development • North Twin Development • Millinocket Development • Dolby Development • East Millinocket Development	P-2458	GLHA	67.7	West Branch and Millinocket Stream
Medway Hydroelectric Project	P-2666	BBHP	3.4	West Branch
Mattaceunk Hydroelectric Project	P-2520	GLHA	19.2	Mainstem
West Enfield Hydroelectric Project	P-2600	BPHA	13.0	Mainstem
Milford Hydroelectric Project	P-2534	BBHP	8.2	Mainstem Stillwater Branch
Stillwater Hydroelectric Project	P-2712	BBDH	4.2	Stillwater Branch
Orono Hydroelectric Project	P-2710	BBDH	6.5	Stillwater Branch

*GLHA – Great Lakes Hydro America, LLC; BPHA – Bangor-Pacific Hydro Associates; BBHP–Black Bear Hydro Partners, LLC; BBDH - Black Bear Development Holdings, LLC.

1.3 Plans to Coordinate the Operation of the Projects with Other Electrical Systems

GLHA is an independent power producer and member of NEPOOL that currently sells power wholesale from the Project to ISONE. NEPOOL is a voluntary association whose members include not only traditional, vertically-integrated electric utilities, but independent power producers such as GLHA that are participating in the competitive wholesale electricity marketplace. ISONE serves as the independent system operator of the regional bulk power system and administers the wholesale marketplace. The primary responsibilities of ISONE are to coordinate, monitor, and direct the operations of the major generating and transmission facilities in the region. The objective of ISONE is to promote a competitive wholesale electricity marketplace while maintaining the electrical system's integrity and reliability. ISONE seeks to ensure both maximum reliability and economy of the bulk power supply for New England.

Therefore, the electric facilities of NEPOOL member companies are operated as if they comprised a single power system. ISONE accomplishes this by the central dispatching of available power resources and using the lowest cost generation and transmission equipment available at any given time, consistent with meeting reliability requirements. As a result of this economic dispatch, utilities and their customers realize significant savings annually. NEPOOL participants also have strengthened the reliability of the bulk power system through shared operating reserves and coordinated maintenance scheduling.

ISONE staff constantly monitors and directs the operation of more than 300 generators and more than 7,600 miles of transmission lines in New England. ISONE is also responsible for forecasting the various levels of daily electricity demand that will occur throughout the region and scheduling resources to meet the demand.

2.0 Need of Applicant for the Electricity Generated by the Projects

2.1 Reasonable Cost and Availability of Alternative Sources of Power

Electrical output from the Projects is sold wholesale into the ISONE-administered market. The replacement of the baseload energy (total average annual generation from the Projects is approximately 545,700 megawatt hours [MWh], estimated to power approximately 54,570 single-

family homes in the Northeast for one year¹) and capacity provided by the Projects would be met through other sources. The baseload energy would likely be replaced by fossil-fired generating units, whose fuel and other variable costs would be significantly higher than those of the Projects over the life of the new licenses. As often the lowest variable cost resource among power supply alternatives, hydroelectric assets such as the Projects can bid energy into the ISONE market at lower prices than alternative resources. Therefore, loss of a low-variable baseload cost resource such as the Projects would result in upward pressure on the clearing prices in the NEPOOL market and on the prices ultimately paid by electric consumers in New England.

The Projects provide carbon-free, renewable power without the emissions of air pollutants or greenhouse gases that the marginal fossil fuel plants produce. This is an increasingly important fact in New England where all six New England states have enacted legislation to reduce the dependence on fossil-fired generation through the introduction of Renewable Portfolio Standards (RPS), or similar legislation, that encourages and requires the use of renewable power sources in the state's total resource output. Many of these RPS programs include an annual escalating supply requirement to further encourage reliance on renewable power sources. These enacted legislations are designed to increase the amount of renewable power supply in the region's mix of generation resources or, alternatively, reduce the amount of fossil-fired generation as a percentage of the total resource output.

2.2 Increase in Costs if the Licensee is not Granted a License

If GLHA is not granted new licenses, the Projects would cease to provide clean, renewable, and affordable baseload electricity to the NEPOOL, likely resulting in an unquantified increase in costs to the New England electric consumer and greenhouse gas emissions to the environment.

2.2.1 Effects of Alternative Sources of Power

2.2.1.1 Effects on Licensee's Customers

This section is not applicable to the Licensee, because the Licensee is a wholesale supplier.

¹ EIA. 2023. Energy Use in Homes. Online [URL]: <https://www.eia.gov/energyexplained/use-of-energy/electricity-use-in-homes.php>. Accessed September 19, 2024.

2.2.1.2 Effects on Licensee's Operating and Load Characteristics

The Licensee is an independent power producer and, as such, does not maintain a separate transmission system that could be affected by replacement or alternative power sources.

2.2.1.3 Effects on Communities Served by the Projects

See the discussion in Section 2.2 and Section 2.3 regarding the loss of generation if GLHA is not granted new licenses for the Projects. Because the Licensee cannot predict with any certainty the actual type or location of a potential alternative facility to provide replacement power, it cannot specifically discuss potential effects on any particular community.

2.3 Need, Reasonable Cost and Availability of Alternative Sources of Power

2.3.1 Average Annual Cost of Power

Exhibit D includes an estimate of the average annual cost of power, including the basis for the calculations.

2.3.2 Projected Resources Required by the Applicant to Meet Short- and Long-Term Capacity and Energy Requirements

GLHA is an independent power producer and, as such, does not have an obligation or need to prepare load and capability forecasts in reference to any particular group or class of customers. For the region, those obligations and tasks remain within the scope of services provided by ISONE.

2.4 Effect of Power on Licensee's Industrial Facility

Use of electricity generated at the facilities is limited to station service to generate electricity, as compared to other industrial uses, and thus, this section is not applicable.

2.5 Native American Tribe as Applicant

GLHA is not a Native American Tribe, so this section is not applicable.

2.6 Impacts on the Operations and Planning of Applicant's Transmission System

The Licensee is an independent power producer and does not own the local transmission system. Power generated by the Projects is currently transmitted to the local utility transmission/distribution system.

A single-line diagram for each Project is provided in Appendix H.1.

2.7 Statement of Need for Modifications

GLHA is not proposing any fundamental modifications to the Projects' existing facilities or operation. Relicensing and continued operation of the Projects will continue to be compatible with the comprehensive development and utilization of the waterway and conform to the various comprehensive natural resource plans developed by resource management agencies, as discussed below.

2.8 Consistency with Comprehensive Plans

GLHA is not proposing any fundamental modifications to the Projects' existing facilities or operation.

Section 10(a)(2) of the Federal Power Act (FPA) requires FERC to consider the extent to which a project is consistent with Commission-approved federal and state comprehensive plans for improving, developing, and conserving waterways affected by the Projects. In accordance with Section 10(a)(1) of the FPA, the list of Commission-approved federal and state comprehensive plans was reviewed to determine applicability to the Projects (FERC 2023). Additionally, the Commission's Scoping Document 2 (SD2) identified 21 comprehensive plans for the State of Maine that are potentially relevant to the Projects. These plans are identified and described in Section 7.0 of Exhibit E – "Environmental Report." GLHA believes that the Projects are consistent with the applicable comprehensive plans.

2.9 Financial and Personnel Resources

The Licensee is Brookfield Renewable U.S. company, which has considerable experience operating not only the Projects, but other licensed hydroelectric and water-storage projects in the region as well. As a corporation with multiple hydroelectric plants located throughout the region

and the State of Maine, Brookfield either has or can acquire the necessary resources to continue the operation and maintenance of the Projects.

Within the Penobscot River Basin area, there are maintenance/operations technicians, the Administrative Assistant, the Maintenance Planner, the Water Resource Manager, Project Managers, Compliance Specialists, and the Operations Managers. Additionally, staff can be utilized from other nearby Brookfield facilities, or contractors can be retained to undertake larger scale maintenance or upgrade projects. In addition, the Licensee has available administrative, licensing, dam safety engineers, and support personnel that are needed to maintain compliance with the terms of the licenses.

Information regarding the Projects' expected annual costs and value are provided in Exhibit D – "Statement of Costs and Financing" of this FLA.

2.10 Notification to Affected Landowners

GLHA is not proposing modifications to the Project boundaries; therefore, this is not applicable.

2.11 Applicant's Electric Consumption Efficiency Improvement Program

GLHA is an independent power producer; therefore, this is not applicable.

2.12 Identification of Indian Tribes Affected by the Projects

There are no Tribal lands located within the Project boundaries. The federally-recognized Indian tribes likely to be interested in the relicensing have been, and continue to be, included on the distribution list for the Projects.

2.13 Measures Planned to Ensure Safe Management, Operation, and Maintenance of the Projects

The Projects' powerhouses are operated remotely from the Licensee's National System Control Center (NSCC). There are also local technicians that visit the Projects periodically, and there is also a technician on call 24 hours a day, seven days a week, if needed.

Additionally, dam safety inspections are routinely conducted by FERC's New York Regional Office and the GLHA as required by 18 CFR Part 12. GLHA maintains Emergency Action Plans

(EAPs) for the Projects and annually verifies the accuracy of each EAP's contact list to be used in the event of a dam failure at the Project.

2.13.1 Existing and Planned Operation of the Projects During Flood Conditions

2.13.1.1 Ripogenus Project

The Ripogenus impoundment is managed on an annual cycle to dampen the variability and occasional extremes of seasonal precipitation and runoff through storage within the impoundment. The size of the Ripogenus impoundment in combination with the Project's operational flexibility provides the storage resource that minimizes the detrimental effects of natural high-water periods within the larger Penobscot River basin. Without the existing storage capacity and operational flexibility of Project operation, the basin and downstream river users would be routinely subject to higher variable flows throughout the system – including flooding, public safety, dam safety, and environmental impacts throughout the downstream reaches. In addition, the storage allows flows from the West Branch to be reduced during higher seasonal flow periods when the combined flows from the East and West Branches have the potential to adversely impact human life, property, and environmental resources downstream along the mainstem Penobscot River.

The gates at Ripogenus Dam are operated locally. When gates at the dam must be utilized to control impoundment levels (e.g., high-water conditions), the two crest gates are typically opened first, followed by the four deep gates, and then the log sluice. Gate operations are started when the Ripogenus impoundment water level approaches, and would be expected to exceed, elevation of 941.59 feet. If the impoundment elevation continues to rise, one or more of the fourteen quick-release stoplog bays would be opened.

A more-detailed description of the operation of the Ripogenus Project during low, normal, and high-water conditions is provided in Exhibit B of this FLA.

2.13.1.2 Penobscot Mills Project

The five developments that comprise the Penobscot Mills Project are operated as an integrated system, primarily based on flows received from the Ripogenus Project. The two store-and-release developments (Millinocket Lake Storage and North Twin) are located upstream of the run-of-river

developments (Millinocket, Dolby, and East Millinocket). At each of the developments, gates are operated locally or remotely to manage high flows or flooding.

A more-detailed description of the existing and proposed operation of the Project during low, normal, and high-water conditions is contained in Exhibit B of this FLA.

2.13.2 Warning Devices Used to Ensure Downstream Public Safety

GLHA maintains a Public Safety Plan for each of the Projects that illustrates the location of safety signs, sirens, barriers, and other safety devices. The plans also include measures required by FERC, or installed by GLHA on its own initiative, to warn and/or protect the public in its use of Project lands and waters. The Public Safety Plans were recently updated and filed with FERC on December 28, 2021.

2.13.3 Proposed Changes Affecting the Existing Emergency Action Plans

GLHA is not proposing changes to the operation of the Projects that would affect the Projects' existing EAPs on file with FERC.

2.13.4 Existing and Planned Monitoring Devices

The Projects are maintained by GLHA in accordance with manufacturers' instructions and industry best practices and monitored as described in the Dam Safety Surveillance and Monitoring Plans (DSSMPs) that are maintained for the Projects and on file with FERC.

2.13.5 Project's Employee and Public Safety Record

One fatality to the public occurred at the Ripogenus Project; however, the fatality was not caused by Project operations.

Four lost-time injuries (three employees and one subcontractor to the Licensee) occurred at the Penobscot Mills Project. Two fatalities and one injury to the public occurred at the Penobscot Mills Project, none of which were caused by Project operations.

2.14 Current Operation of the Projects

A description of Project Operation is contained in Exhibit B – “Project Operation and Resource Utilization” of this FLA.

2.15 Project History

A description of Project History is contained in Exhibit C – “Construction History” of this FLA.

2.16 Lost Generation Due to Unscheduled Outages

The record of unscheduled outages at the Projects over the last five years (2019 through 2023) is provided in Appendix H.2.

2.17 Record of Noncompliance

In accordance with Article 403 of the Ripogenus Project license and Article 404 of the Penobscot Mills Project license, GLHA monitors minimum flows and impoundment water levels in order to maintain compliance with each license’s requirements. GLHA files a report with FERC in the event of deviations to specific license conditions. The reported license deviations that FERC has determined to be violations of the Projects’ licenses are summarized in Table 2.17-1.

TABLE 2.17-1
RIPOGENUS AND PENOBSCOT MILLS PROJECTS – FERC LICENSE VIOLATIONS

Project/ Development	Event Date	Summary of Deviation	Follow-up/ Remedial Actions
Penobscot Mills - Dolby	September 20, 2021	Temporary run-of-river deviation due to operator error causing a unit trip while attempting to isolate the battery system for maintenance (Article 403)	A switching procedure for isolating the battery systems has been developed and operator training implemented.
Ripogenus	September 10, 2021	Missed whitewater recreation flow due to planned maintenance at Unit 2 (Article 402)	Reissuing work notifications that specify if gate openings are needed, color-coding flow planning schedules to specify recreation flows, and operator review of processes.

Project/ Development	Event Date	Summary of Deviation	Follow-up/ Remedial Actions
Penobscot Mills - Millinocket	August 10, 2015	Run-of-river and minimum flow excursion due to miscommunication of flows to be released from the upstream North Twin Development (Article 403)	Secondary validation of flow change calculations; formal communication of flow changes; direct communication of flow changes between the Water Resource Manager, NSCC, and field personnel making the gate changes.
Penobscot Mills - Millinocket	November 20, 2011	Run-of-river and minimum flow excursion due to operator error and overinflation of the Stone Dam inflatable rubber flashboard system (Article 403)	System operators were given refresher training on how to operate the inflatable rubber flashboard system to maintain minimum flow compliance.
Ripogenus	July 1 – July 5, 2011	Seasonal change in minimum flow violation (Article 401)	New management system to track and plan flow requirements.
Penobscot Mills - Dolby	June 6, 2011	Temporary run-of-river deviation due to operator error (Article 403)	Reminder to operators to remove locks from waste gates once work on flashboards is complete.

2.18 Actions Affecting the Public

GLHA has strong ties with the communities in the region, as a generator of electric power and as an employer and taxpayer in the region. The Projects are important locally as a clean and reliable energy source.

The Licensee generally allows public access to the Project lands and waters for recreational purposes, as discussed in Exhibit E – “Environmental Report” of this FLA. However, if necessary, the Licensee will restrict public access to specific areas that pose a threat to public safety and Project security.

2.19 Ownership and Operating Expenses that would be Reduced if the Licenses were Transferred

The Licensee is applying for new licenses to continue to maintain and operate the Projects. There is no competing application for the Projects or proposal to transfer the Projects’ licenses; therefore, this section is not applicable to the Projects.

2.20 Annual Fees for Use of Federal or Native American Lands

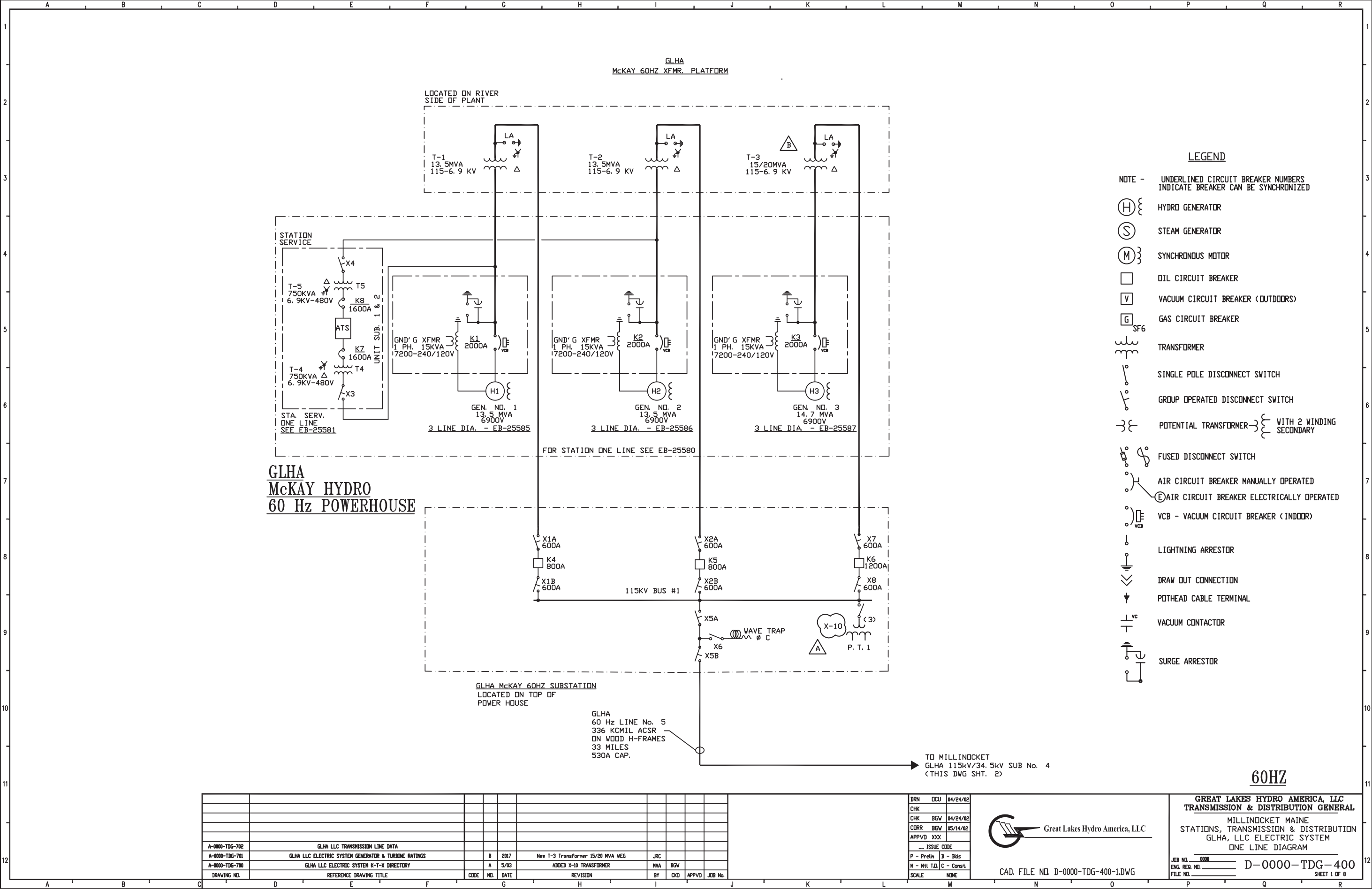
No federal or Native American lands are included within the Projects' boundaries; therefore, this is not applicable.

3.0 References

Federal Energy Regulatory Commission (FERC). 2023. List of Comprehensive Plans. September 2023. Online [URL]: <https://cms.ferc.gov/media/list-comprehensive-plans> (Accessed February 2024).

APPENDIX H.1

SINGLE-LINE DIAGRAMS







POWERSVILLE ROAD SUBSTATION
GLHA / BHE

LEGEND

NOTE - UNDERLINED CIRCUIT BREAKER NUMBERS INDICATE BREAKER CAN BE SYNCHRONIZED

(H) HYDRO GENERATOR
(S) STEAM GENERATOR
(M) SYNCHRONOUS MOTOR
□ OIL CIRCUIT BREAKER
[V] VACUUM CIRCUIT BREAKER (OUTDOORS)
[G] GAS CIRCUIT BREAKER
SF₆
TRANSFORMER
SINGLE POLE DISCONNECT SWITCH
GROUP OPERATED DISCONNECT SWITCH
POTENTIAL TRANSFORMER WITH 2 WINDING SECONDARY
FUSED DISCONNECT SWITCH
AIR CIRCUIT BREAKER MANUALLY OPERATED
ⓐ AIR CIRCUIT BREAKER ELECTRICALLY OPERATED
VCB - VACUUM CIRCUIT BREAKER (INDOOR)
LIGHTNING ARRESTOR
DRAW OUT CONNECTION
POTHEAD CABLE TERMINAL
VACUUM CONTACTOR
SURGE ARRESTOR

LINE 6 TO MILLINOCKET SUBSTATION MSUB4 (SHT. NO 2)

795 ACSR 910 AMP CAPACITY

X-306G

X-306

3-CCVT PT-300

X-300A

K-300 [G] SF₆

X-300B

X-304A

K-304 [G] SF₆

X-304B

PT-304

3-CCVT

X-303B

K-303 [G] SF₆

X-303A

6204

6204G

3-CCVT PT-303

X-302A

795 ACSR 910 AMP CAPACITY

GLHA BATTERY BANK 20 MW

MP-9 MP-8 MP-7 MP-6 MP-5 MP-4 MP-3 MP-2 MP-1

480/277 V 3150 KVA 34.5 KV T-505 T-504 T-503 T-502 T-501

X-505 X-504 X-503 X-502 X-501

336.4 KCMIL ALUM WIRE

115/34.5 KV 30/40/50 MVA

X-309

T-500

X-415

FX-01

SST-400

STATION SERVICE 480/277V 3-25KVA

3-VT'S PT-400

X-401A

K-401 [V]

X-401B (FUTURE)

X-402A

K-402 [G] SF₆

X-402B

FX-02

SST-401

STATION SERVICE 480/277V 75KVA

3-VT'S PT-406

X-403A

X-404B

[G] SF₆

X-404A

K-404

X-412

795 ACSR TERN 915 AMP CAPACITY

LINE NO. 2 TO DOLBY HYDRO (SHEET NO. 4)

477 ACSR 715 AMP CAPACITY

X-410

X-414

X-407A

X-406A

K-406 [G] SF₆

X-406B

X-405A

K-405 [G] SF₆

X-405B

4/D COPPER ON STEEL TOWERS 480 AMP CAPACITY

X-416

LINE NO. 7 TO WELDON SUBSTATION X-199 SEE D-0000-TDG-400 SHEET 7

LINE NO. 9 TO EAST MILLINOCKET HYDRO (SHEET NO. 5)

447 ACSR 715 AMP CAPACITY

LINE NO. 10 TO EAST MILLINOCKET MILL SUBSTATION ESUB3 (SEE KPC, LLC ONE-LINE EB-3658, SHT-5)

JOINT OWNERSHIP
BHE CO. / GLHA

DRAWING NO. A-0000-TDG-702
REFERENCE DRAWING TITLE GLHA LLC TRANSMISSION LINE DATA
CODE NO. DATE REVISION BY CKD APPVD JOB No.

A-0000-TDG-701 GLHA LLC ELECTRIC SYSTEM GENERATOR & TURBINE RATINGS
A-0000-TDG-700 GLHA LLC ELECTRIC SYSTEM K-T-X DIRECTORY

2 01/2021 ADDED BATTERY BANK JRC
1 2/13/06 ADDED WELDON LINE NO 7 FREQUENCY CONVERSION JRC

DRN MAA 5/28/03
CHK BGW 5/28/03
CDRR
APPVD XXX
ISSUE CODE
P - Prelim B - Bids
M - MH T.D. C - Const.
SCALE NONE

GREAT LAKES HYDRO AMERICA, LLC
TRANSMISSION & DISTRIBUTION GENERAL
MILLINOCKET MAINE STATIONS, TRANSMISSION & DISTRIBUTION
GLHA, LLC ELECTRIC SYSTEM
ONE LINE DIAGRAM

JOB NO. 0000
ENG. REQ. NO.
FILE NO.

D-0000-TDG-400
SHEET 8 OF 8

CAD. FILE NO. D-0000-TDG-400-8.DWG

DRN	MAA	5/28/03		Great Lakes Hydro America, LLC	GREAT LAKES HYDRO AMERICA, LLC TRANSMISSION & DISTRIBUTION GENERAL
CHK					MILLINOCKET MAINE STATIONS, TRANSMISSION & DISTRIBUTION GLHA, LLC ELECTRIC SYSTEM ONE LINE DIAGRAM
CHK	BGV	5/28/03			
CDRR					
APPVD	XXX				
__ ISSUE CODE					JOB NO. _____ 0000 ENG. REQ. NO. _____ D-0000-TDG-400 FILE NO. _____
P - Prelim	B - Bids				SHEET 8 OF 8
M - Mkt. TD	C - Const.				
SCALE	NONE				

APPENDIX H.2

RECORD OF UNSCHEDULED OUTAGES AT THE PROJECTS

OVER THE LAST FIVE YEARS (2019 THROUGH 2023)

Development	Unit(s)*	Duration	Lost MWh	Reason for Outage
		(Hours)		
Ripogenus Project	MK 1	5.1	36	VERSANT LINE 62 OUTAGE
Ripogenus Project	MK 1	950.3	6839	BEARING DAMAGE
Ripogenus Project	MK 1	2.4	14	TRIPPED DUE TO LIGHTNING
Ripogenus Project	MK 1	19.5	76	WIND STORM DUE TO HURRICANE LEE
Ripogenus Project	MK 2	5.4	28	WIND STORM
Ripogenus Project	MK 2	14.0	66	RACK ICING
Ripogenus Project	MK 2	3.2	19	TRIP DUE TO LIGHTNING STRIKE
Ripogenus Project	MK 2	1.0	28	LINE ISSUE ON MILLINOCKET LAKE PUMPHOUSE
Ripogenus Project	MK 2	54.1	699	INSULATOR FAILURE
Ripogenus Project	MK 2	1,295.1	893	BEARING DAMAGE
Ripogenus Project	MK 3	53.7	837	INSULATOR FAILURE
Ripogenus Project	MK 3	4.5	26	LIGHTNING STRIKE
Ripogenus Project	MK 3	2.6	15	T-43 LIGHTNING ARRESTOR FAILURE DUE TO LIGHTNING STORM
Ripogenus Project	MK 3	1,773.5	12476	EXCITER AND DOW VALVE TROUBLE
TOTAL		4,184	22,051	
*MK = McKay Station				

Development	Unit(s)*	Duration	Lost MWh	Reason for Outage
		(Hours)		
North Twin Development	NT 1	4.1	9	LOW BEARING WATER FLOW
North Twin Development	NT 1	47.2	80	TURBINE BEARING COOLING WATER PUMP FAILURE
North Twin Development	NT 1	1.0	2	SWITCHING ERROR WHILE TROUBLESHOOTING
North Twin Development	NT 1	17.5	36	RACK ICING
North Twin Development	NT 1	1.1	4	VERSANT LINE 62 OUTAGE
North Twin Development	NT 1	6.2	8	LINE FAULT DURING WINDY CONDITIONS
North Twin Development	NT 1	2.2	5	UNIT TRIPPED ON OVER EXCITATION.
North Twin Development	NT 1	4.5	14	LIGHTNING STRIKE
North Twin Development	NT 1	15.0	63	T-43 LIGHTNING ARRESTOR FAILURE DUE TO LIGHTNING STORM
North Twin Development	NT 1	3.0	21	TRIPPED DUE TO LIGHTNING
North Twin Development	NT 2	0.8	1	SWITCHING ERROR WHILE TROUBLESHOOTING
North Twin Development	NT 2	0.2	0	BREAKER TROUBLE
North Twin Development	NT 2	59.9	214	WIND STORM
North Twin Development	NT 2	0.9	3	TRIP DUE TO LIGHTNING STRIKE
North Twin Development	NT 2	73.0	245	BREAKER FAILURE DURING STORM
North Twin Development	NT 2	169.4	84	EXCITER TROUBLE
North Twin Development	NT 2	18.4	9	U2 SHUT DOWN DUE TO OVERHEATING COMPONENT .
North Twin Development	NT 2	1.1	1	GENERATOR FIELD RELAY ON NORTH TWIN UNIT TWO. **TRIP**
North Twin Development	NT 2	19.1	88	WIND STORM DUE TO HURRICANE LEE
North Twin Development	NT 2	121.2	278	UNIT TRIPPED
North Twin Development	NT 2	0.3	1	UNIT TRIP ON HIGH WHEEL PIT LEVEL.
North Twin Development	NT 2	5.1	12	HIGH WHEEL PIT LEVEL
North Twin Development	NT 3	19.5	60	DOWN DUE TO EXCITER ISSUE
North Twin Development	NT 3	0.8	2	SWITCHING ERROR WHILE TROUBLESHOOTING
North Twin Development	NT 3	0.2	1	UNIT NOT READING MW VALUES
North Twin Development	NT 3	17.5	36	RACK ICING
North Twin Development	NT 3	0.2	0	BREAKER TROUBLE
North Twin Development	NT 3	4.5	14	LIGHTNING STRIKE
North Twin Development	NT 3	15.0	58	T-43 LIGHTNING ARRESTOR FAILURE DUE TO LIGHTNING STORM
North Twin Development	NT 3	3,313.5	13533	VIBRATION AND NOISE IN TURBINE
TOTAL		3,942	14,880	
Millinocket Development	M 1	9.3	36	GOVERNOR ISSUE
Millinocket Development	M 1	30.7	119	STATION SERVICE TRANSFORMER ISSUE
Millinocket Development	M 1	1.7	7	SWITCHING ERROR WHILE TROUBLESHOOTING
Millinocket Development	M 1	17.6	82	RACK ICING
Millinocket Development	M 1	26.3	102	UNIT WONT START
Millinocket Development	M 1	12.5	233	RACK ICING
Millinocket Development	M 1	13.7	382	RACK ICING
Millinocket Development	M 1	15.5	240	OFFLINE DUE TO ICING
Millinocket Development	M 1	1,223.0	621	MILLINOCKET UNIT 1 IS OUT OF SERVICE DUE TO A LEAK IN THE COOLING WATER PIPING SYSTEM.
Millinocket Development	M 1	6.2	33	LINE FAULT DURING WINDY CONDITIONS
Millinocket Development	M 1	2,740.5	10908	GENERATOR CABLE LEAD FAILURE
Millinocket Development	M 1	4.5	24	LIGHTNING STRIKE
Millinocket Development	M 1	15.0	81	T-43 LIGHTNING ARRESTOR FAILURE DUE TO LIGHTNING STORM
Millinocket Development	M 1	3.4	84	TRIPPED DUE TO LIGHTNING
Millinocket Development	M 1	4.2	21	LINE FAULT DUE TO HEAVY SNOW
Millinocket Development	M 1	2.1	11	TRIP DURING RELAY TESTING
Millinocket Development	M 3	0.6	3	RACK IN #8 BREAKER
Millinocket Development	M 3	0.2	1	RACK IN #4 BREAKER
Millinocket Development	M 3	0.3	1	RACK IN #7 BREAKER
Millinocket Development	M 3	0.2	1	TO RACK IN BREAKER 4
Millinocket Development	M 3	17.6	82	RACK ICING
Millinocket Development	M 3	9.2	41	UNIT TRIPPED OFFLINE DUE TO ICING
Millinocket Development	M 3	6.2	33	LINE FAULT DURING WINDY CONDITIONS
Millinocket Development	M 3	15.0	81	T-43 LIGHTNING ARRESTOR FAILURE DUE TO LIGHTNING STORM
Millinocket Development	M 3	2.0	44	STATION TRIP DUE TO #1 BUS PT FAILURE
Millinocket Development	M 3	4.3	17	LINE FAULT DUE TO HEAVY SNOW
Millinocket Development	M 3	1.6	8	TRIP DURING RELAY TESTING
Millinocket Development	M 4	118.8	552	NEEDS BRAKE WORK.
Millinocket Development	M 4	0.0	0	RACK IN #6 BREAKER
Millinocket Development	M 4	50.8	197	BROKEN INSULATOR
Millinocket Development	M 4	22.4	87	STATION SERVICE TRANSFORMER ISSUE
Millinocket Development	M 4	1.9	10	RACK DEBRIS
Millinocket Development	M 4	0.1	0	RACK IN UNIT #6 BREAKER
Millinocket Development	M 4	0.8	3	RACKING IN #6 BREAKER FOLLOWING OUTAGE
Millinocket Development	M 4	1.3	6	SWITCHING ERROR WHILE TROUBLESHOOTING
Millinocket Development	M 4	0.5	2	RACK IN #8 BREAKER
Millinocket Development	M 4	1106.6	298	THIS IS DUE TO TURBINE DAMAGE.
Millinocket Development	M 4	0.1	0	RACKING IN UNIT 7 BREAKER
Millinocket Development	M 4	0.1	0	RACKING IN UNIT 3 BREAKER
Millinocket Development	M 4	5.8	89	VERSANT LINE 62 OUTAGE
Millinocket Development	M 4	9.2	35	UNIT TRIPPED OFFLINE DUE TO ICING
Millinocket Development	M 4	6.2	33	LINE FAULT DURING WINDY CONDITIONS
Millinocket Development	M 4	15.0	81	T-43 LIGHTNING ARRESTOR FAILURE DUE TO LIGHTNING STORM
Millinocket Development	M 4	15.3	36	UNIT TRIPPED ON OVERSPEED.
Millinocket Development	M 4	1.8	9	TRIP DURING RELAY TESTING
Millinocket Development	M 5	0.9	4	UNIT 4 RACK IN.
Millinocket Development	M 5	0.0	0	RACK IN #6 BREAKER
Millinocket Development	M 5	15.4	60	RACK ICING
Millinocket Development	M 5	50.5	196	BROKEN INSULATOR
Millinocket Development	M 5	22.2	86	STATION SERVICE TRANSFORMER ISSUE
Millinocket Development	M 5	2.1	11	RACK DEBRIS
Millinocket Development	M 5	0.1	0	RACK IN UNIT #6 BREAKER
Millinocket Development	M 5	0.6	2	RACKING IN #6 BREAKER FOLLOWING OUTAGE
Millinocket Development	M 5	1.2	5	SWITCHING ERROR WHILE TROUBLESHOOTING
Millinocket Development	M 5	0.5	2	RACK IN #8 BREAKER
Millinocket Development	M 5	0.1	1	RACK IN #4 BREAKER
Millinocket Development	M 5	0.3	1	RACK IN #7 BREAKER
Millinocket Development	M 5	0.1	1	UNIT OFFLINE TO RACK IN UNIT 3+7 BREAKER
Millinocket Development	M 5	0.3	2	TO RACK IN BREAKER FOR UNIT 4
Millinocket Development	M 5	0.1	1	RACKING IN UNIT 7 BREAKER
Millinocket Development	M 5	0.2	1	RACKING IN UNIT 3 BREAKER
Millinocket Development	M 5	3.7	59	WIND STORM
Millinocket Development	M 5	2.9	48	RACK ICING
Millinocket Development	M 5	1.1	17	TRIP DUE TO LIGHTNING STRIKE
Millinocket Development	M 5	1,714.1	655	BEARING FAILURE
Millinocket Development	M 5	6.2	33	LINE FAULT DURING WINDY CONDITIONS
Millinocket Development	M 5	1,984.7	3199	DRAFT TUBE DAMAGE
Millinocket Development	M 5	12.4	48	UNIT TRIPPED OFFLINE DUE TO HIGH TEMPS ON BEARING.
Millinocket Development	M 5	1.0	24	RACKING IN BREAKER
Millinocket Development	M 5	3.8	62	NORTH TWIN BREAKER TRIP DUE TO STORM
Millinocket Development	M 5	1.5	7	TRIPPED DUE TO HIGH BEARING TEMP

Development	Unit(s)*	Duration	Lost MWh	Reason for Outage
		(Hours)		
Millinocket Development	M 5	1,223.8	553	U5 OFFLINE DUE TO VIBRATION
Millinocket Development	M 5	4.5	24	LIGHTNING STRIKE
Millinocket Development	M 5	15.0	81	T-43 LIGHTNING ARRESTOR FAILURE DUE TO LIGHTNING STORM
Millinocket Development	M 5	2.1	64	SAFETY - RACKING BREAKER
Millinocket Development	M 5	4.1	22	LINE FAULT DUE TO HEAVY SNOW
Millinocket Development	M 5	1.4	7	BREAKER MAINTENANCE
Millinocket Development	M 6	254.2	298	UNIT TRIPPED OFFLINE DUE TO GENERATOR PROTECTION RELAY DIFFERENTIAL.
Millinocket Development	M 6	70.1	326	OOS DUE TO PT ISSUE
Millinocket Development	M 6	15.4	60	RACK ICING
Millinocket Development	M 6	50.4	195	BROKEN INSULATOR
Millinocket Development	M 6	22.2	86	STATION SERVICE TRANSFORMER ISSUE
Millinocket Development	M 6	2.2	12	RACK DEBRIS
Millinocket Development	M 6	202.2	784	SHORTED COILS
Millinocket Development	M 6	1.0	5	SWITCHING ERROR WHILE TROUBLESHOOTING
Millinocket Development	M 6	0.4	2	RACK IN #8 BREAKER
Millinocket Development	M 6	0.1	1	RACK IN #4 BREAKER
Millinocket Development	M 6	0.8	4	RACK IN #7 BREAKER
Millinocket Development	M 6	0.3	1	UNIT OFFLINE TO RACK IN UNIT 3+7 BREAKER
Millinocket Development	M 6	0.5	2	TO RACK IN BREAKER FOR UNIT 4
Millinocket Development	M 6	3,195.9	8469	TURBINE DAMAGE
Millinocket Development	M 6	3.6	101	RACK ICING
Millinocket Development	M 6	6.2	33	LINE FAULT DURING WINDY CONDITIONS
Millinocket Development	M 6	2,708.8	3968	DRAFT TUBE DAMAGE
Millinocket Development	M 6	606.3	1778	STATOR COIL
Millinocket Development	M 6	12.5	310	RACK ICING
Millinocket Development	M 6	12.0	91	RACK ICING
Millinocket Development	M 6	1.0	25	RACK OUT #8 BREAKER
Millinocket Development	M 6	0.9	22	RACK IN #8 BREAKER
Millinocket Development	M 6	4.5	24	LIGHTNING STRIKE
Millinocket Development	M 6	15.0	81	T-43 LIGHTNING ARRESTOR FAILURE DUE TO LIGHTNING STORM
Millinocket Development	M 6	20.0	643	WIND STORM DUE TO HURRICANE LEE
Millinocket Development	M 6	1.0	26	SAFETY - RACKING BREAKER
Millinocket Development	M 6	4.5	24	LINE FAULT DUE TO HEAVY SNOW
Millinocket Development	M 6	1.9	10	TRIP DURING RELAY TESTING
Millinocket Development	M 7	69.0	264	OFFLINE FOR WEEKEND DUE TO GENERATOR CONCERNS
Millinocket Development	M 7	0.6	2	RACKING IN UNIT 3 BREAKER
Millinocket Development	M 7	91.3	212	UNIT OUT OF SERVICE DUE TO GOVERNOR TROUBLE
Millinocket Development	M 7	17.6	82	RACK ICING
Millinocket Development	M 7	1.0	3	GRID BUMP
Millinocket Development	M 7	0.9	4	PT ISSUE
Millinocket Development	M 7	44.0	170	PT ISSUES
Millinocket Development	M 7	2.6	11	PT ISSUE
Millinocket Development	M 7	1.4	6	PT ISSUE
Millinocket Development	M 7	1.0	4	BREAKER ISSUE
Millinocket Development	M 7	1.4	6	GENERATOR BREAKER REPAIR
Millinocket Development	M 7	0.9	4	RELAY ISSUE
Millinocket Development	M 7	0.8	3	RELAY ISSUE
Millinocket Development	M 7	1.1	5	RELAY ISSUE
Millinocket Development	M 7	86.7	403	RELAY ISSUE
Millinocket Development	M 7	1.5	7	RELAY ISSUE
Millinocket Development	M 7	2.4	11	RELAY ISSUE
Millinocket Development	M 7	1.8	9	GOVERNOR ISSUE
Millinocket Development	M 7	1.2	6	GOVERNOR ISSUE
Millinocket Development	M 7	36.8	171	RACK ICING
Millinocket Development	M 7	9.2	36	UNIT TRIPPED OFFLINE DUE TO ICING
Millinocket Development	M 7	6.2	33	LINE FAULT DURING WINDY CONDITIONS
Millinocket Development	M 7	2,200.9	4445	DRAFT TUBE DAMAGE
Millinocket Development	M 7	0.7	4	GOVERNOR TROUBLE
Millinocket Development	M 7	13.1	66	CONTROLS ISSUE
Millinocket Development	M 7	1.8	9	TRIPPED OFFLINE DUE TO CRITICAL FAILURE AND OVERSPEED ALARM.
Millinocket Development	M 7	15.0	81	T-43 LIGHTNING ARRESTOR FAILURE DUE TO LIGHTNING STORM
Millinocket Development	M 7	2.2	10	TRIP DURING RELAY TESTING
Millinocket Development	M 8	99.2	461	NEEDS NEW PLC
Millinocket Development	M 8	15.4	60	RACK ICING
Millinocket Development	M 8	31.2	121	STATION SERVICE TRANSFORMER ISSUE
Millinocket Development	M 8	2.0	8	SWITCHING ERROR WHILE TROUBLESHOOTING
Millinocket Development	M 8	50.9	237	UNIT OFFLINE TO DEWATER PENSTOCK FOR WORK ON 7
Millinocket Development	M 8	1.0	2	HIGH MVARs CAUSED UNIT TO TRIP
Millinocket Development	M 8	12.4	29	UNIT NOT BUILDING AC VOLTAGE PROPERLY.
Millinocket Development	M 8	2.5	6	CHECKING FOR A BAD GROUND TO BATTERY ARRAY
Millinocket Development	M 8	6.1	5	LOW KW OUTPUT, PIVOT VALVE ISSUES POSSIBLY
Millinocket Development	M 8	17.6	68	RACK ICING
Millinocket Development	M 8	9.0	35	UNIT TRIPPED OFFLINE DUE TO ICING
Millinocket Development	M 8	6.2	29	LINE FAULT DURING WINDY CONDITIONS
Millinocket Development	M 8	1,987.0	3508	DRAFT TUBE DAMAGE
Millinocket Development	M 8	172.3	834	CONTROL/BREAKER ISSUE IS PREVENTING THE MILLINOCKET U8 BREAKER FROM CLOSING IN.
Millinocket Development	M 8	1.3	5	U8 UNABLE TO START DUE TO SYNCHING ISSUE
Millinocket Development	M 8	4.5	24	LIGHTNING STRIKE
Millinocket Development	M 8	15.0	81	T-43 LIGHTNING ARRESTOR FAILURE DUE TO LIGHTNING STORM
Millinocket Development	M 8	3.0	109	TRIPPED DUE TO LIGHTNING
Millinocket Development	M 8	977.9	3129	BAD SHIFT RING
Millinocket Development	M 8	1,800.3	6675	WICKET GATE DAMAGE
TOTAL		25,658	58,890	

Development	Unit(s)*	Duration	Lost MWh	Reason for Outage
		(Hours)		
Dolby Development	D 5	2.7	9	TRIPPED DURING BREAKER CLOSURE
Dolby Development	D 5	0.7	2	TRIPPED DURING BREAKER CLOSURE
Dolby Development	D 5	2.8	14	RACK IN #8 BREAKER FOR TESTING
Dolby Development	D 5	54.2	180	BROKEN CROSS ARM ON DOLBY TRANSMISSION LINE
Dolby Development	D 5	0.8	4	BREAKER ISSUE
Dolby Development	D 5	2.6	18	LIGHTNING STORM
Dolby Development	D 5	0.3	2	TRIP DUE TO WIND STORM
Dolby Development	D 5	0.8	4	UNIT 5 TRIPPED OFFLINE CONCURRENT WITH A HIGH THRUST BEARING TEMPERATURE ALARM.
Dolby Development	D 5	1.3	7	TRIPPED OFFLINE DUE TO HIGH BEARING TEMPS
Dolby Development	D 5	3.5	18	RACK DEBRIS
Dolby Development	D 5	7.3	37	TAILRACE SILL INSTALLATION
Dolby Development	D 5	14.0	71	TAILRACE SILL INSTALLATION
Dolby Development	D 6	1.0	3	RACK ICING
Dolby Development	D 6	2.7	9	TRIPPED DURING BREAKER CLOSURE
Dolby Development	D 6	3.5	12	TRIPPED FOLLOWING BREAKER CLOSURE
Dolby Development	D 6	4.6	18	RACK DEBRIS
Dolby Development	D 6	3.0	12	RACK IN #8 BREAKER FOR TESTING
Dolby Development	D 6	54.2	180	BROKEN CROSS ARM ON DOLBY TRANSMISSION LINE
Dolby Development	D 6	406.1	1352	UNIT REMAINED OFFLINE FOLLOWING FULL STATION OUTAGE CAUSED BY BAD CROSS ARM
Dolby Development	D 6	1.9	6	BREAKER ISSUE
Dolby Development	D 6	0.5	1	UNIT TRIPPED DUE TO AVR TROUBLESHOOTING
Dolby Development	D 6	0.7	2	GOVERNOR TROUBLE
Dolby Development	D 6	5.4	36	VERSANT LINE 62 OUTAGE
Dolby Development	D 6	24.1	120	GOVERNOR SPLINE SHAFT FAILURE
Dolby Development	D 6	134.5	332	RIVER CROSSING LINE FAILURE DUE TO ICE BUILDUP
Dolby Development	D 6	1.3	5	STATOR COIL HIGH TEMP
Dolby Development	D 6	1.6	16	BIRD IN SUBSTATION
Dolby Development	D 6	10.0	40	DOLBY 6 TRIPPED OFFLINE DUE TO LOSS OF EXCITATION.
Dolby Development	D 6	47.5	190	UNIT OFFLINE DUE TO HIGH TAILRACE
Dolby Development	D 6	31.7	127	OFFLINE DUE TO LOW THRUST BEARING OIL FLOW
Dolby Development	D 6	4.5	18	LIGHTNING STRIKE
Dolby Development	D 6	13.1	41	SPLINE SHAFT FAILURE
Dolby Development	D 7	2.7	9	TRIPPED DURING BREAKER CLOSURE
Dolby Development	D 7	3.9	13	TRIPPED FOLLOWING BREAKER CLOSURE
Dolby Development	D 7	20.6	82	RACK DEBRIS
Dolby Development	D 7	3.1	12	RACK IN #8 BREAKER FOR TESTING
Dolby Development	D 7	54.2	162	BROKEN CROSS ARM ON DOLBY TRANSMISSION LINE
Dolby Development	D 7	2.4	8	BREAKER ISSUE
Dolby Development	D 7	3.5	12	INTERMITTENT ISSUES WITH GOVERNOR TANK
Dolby Development	D 7	2.7	9	UNABLE TO INCREASE PRESSURE ON THE GOVERNOR OIL DUE A BAD PRESSURE SWITCH
Dolby Development	D 7	22.1	302	RACK ICING
Dolby Development	D 7	3.5	34	RACK DEBRIS
Dolby Development	D 7	134.5	332	RIVER CROSSING LINE FAILURE DUE TO ICE BUILDUP
Dolby Development	D 7	0.4	1	TRIPPED DUE TO OPERATOR ERROR
Dolby Development	D 7	0.7	7	UNIT OFFLINE FOR TRASH SLUICING
Dolby Development	D 7	47.7	191	UNIT OFFLINE DUE TO HIGH TAILRACE
Dolby Development	D 7	4.5	18	LIGHTNING STRIKE
Dolby Development	D 7	53.3	213	TAILRACE SILL INSTALLATION
Dolby Development	D 7	93.7	1108	TRANSFORMER AND BREAKER TRIP DURING HURRICANE LEE
Dolby Development	D 7	3.0	12	OOS DUE TO STRIPPED SPLINE SHAFT ON THE SPEED FEEDBACK COUPLING
Dolby Development	D 7	184.5	737	UNIT OFFLINE DUE TO HIGH TAILWATER ELEVATION WITH OIL SEPARATOR ALARM.
Dolby Development	D 8	43.2	119	DC LUBE OIL PUMP FAILURE
Dolby Development	D 8	2,184.6	484	UNIT TRIPPED OFFLINE.
Dolby Development	D 8	5,663.0	7547	THRUST BEARING FAILURE
Dolby Development	D 8	2.9	6	UNIT 8 OFFLINE DUE TO TRIPPING ON LOW GOVERNOR OIL PRESSURE
Dolby Development	D 8	134.5	230	RIVER CROSSING LINE FAILURE DUE TO ICE BUILDUP
Dolby Development	D 8	3.7	10	RACK DEBRIS
Dolby Development	D 8	0.3	1	DOLBY 8 TRIPPED DUE TO HIGH BEARING TEMP
Dolby Development	D 8	0.2	1	UNIT 8 TRIPPED OFFLINE WITH GOVERNOR OIL PRESSURE ALARM
Dolby Development	D 8	4.5	13	LIGHTNING STRIKE
Dolby Development	D 8	0.3	1	ELECTRICAL TROUBLE
Dolby Development	D 8	3.1	8	GOVERNOR TROUBLE
TOTAL		9,524	14,574	

Development	Unit(s) *	Duration	Lost MWh	Reason for Outage
		(Hours)		
East Millinocket Development	EM 1	39.0	29	RACK ICING
East Millinocket Development	EM 1	9.5	7	RACK ICING
East Millinocket Development	EM 1	45.3	34	BROKEN INSULATOR
East Millinocket Development	EM 1	17.1	13	RACK ICING
East Millinocket Development	EM 1	0.3	0	RACK DEBRIS
East Millinocket Development	EM 1	0.7	1	RACK DEBRIS
East Millinocket Development	EM 1	11.7	10	RACK DEBRIS
East Millinocket Development	EM 1	0.2	0	RACK IN #6 BREAKER
East Millinocket Development	EM 1	2.1	2	BROKEN CROSS ARM ON DOLBY TRANSMISSION LINE
East Millinocket Development	EM 1	0.4	0	BROKEN CROSS ARM ON DOLBY TRANSMISSION LINE
East Millinocket Development	EM 1	109.5	73	RACK ICING
East Millinocket Development	EM 1	7.1	5	RACK ICING
East Millinocket Development	EM 1	8.4	45	RACK ICING
East Millinocket Development	EM 1	13.7	37	TRIPPED DUE TO ICING
East Millinocket Development	EM 1	4.0	12	TRIP DUE TO WIND STORM
East Millinocket Development	EM 1	0.2	1	STATION TAKEN OFFLINE TO RACK IN U6
East Millinocket Development	EM 1	3.1	3	RACK DEBRIS
East Millinocket Development	EM 1	4.5	2	LIGHTNING STRIKE
East Millinocket Development	EM 1	4.0	7	ICE AND DEBRIS REMOVAL ON RACKS
East Millinocket Development	EM 2	10.3	6	ICING
East Millinocket Development	EM 2	17.2	13	ICING
East Millinocket Development	EM 2	19.1	14	ICING
East Millinocket Development	EM 2	9.4	7	ICING
East Millinocket Development	EM 2	39.0	29	RACK ICING
East Millinocket Development	EM 2	9.6	7	RACK ICING
East Millinocket Development	EM 2	45.5	34	BROKEN INSULATOR
East Millinocket Development	EM 2	10.0	7	RACK ICING
East Millinocket Development	EM 2	0.2	0	RACK ICING
East Millinocket Development	EM 2	0.3	0	RACK DEBRIS
East Millinocket Development	EM 2	0.4	0	RACK IN #6 BREAKER
East Millinocket Development	EM 2	2.1	2	BROKEN CROSS ARM ON DOLBY TRANSMISSION LINE
East Millinocket Development	EM 2	0.4	0	BROKEN CROSS ARM ON DOLBY TRANSMISSION LINE
East Millinocket Development	EM 2	16.4	11	RACK ICING
East Millinocket Development	EM 2	0.5	2	RACK IN UNIT BREAKER
East Millinocket Development	EM 2	1.9	6	LIGHTNING STORM
East Millinocket Development	EM 2	3.0	3	RACK DEBRIS
East Millinocket Development	EM 2	4.5	4	LIGHTNING STRIKE
East Millinocket Development	EM 2	3.8	14	ICE AND DEBRIS REMOVAL ON RACKS
East Millinocket Development	EM 3	10.5	6	ICING
East Millinocket Development	EM 3	17.2	10	ICING
East Millinocket Development	EM 3	19.1	11	ICING
East Millinocket Development	EM 3	9.8	6	ICING
East Millinocket Development	EM 3	60.7	45	RACK ICING
East Millinocket Development	EM 3	5.2	4	RACK ICING
East Millinocket Development	EM 3	11.2	8	RACK ICING
East Millinocket Development	EM 3	45.6	34	BROKEN INSULATOR
East Millinocket Development	EM 3	11.0	8	RACK ICING
East Millinocket Development	EM 3	0.7	0	TRIPPED ON EXCITER ISSUE
East Millinocket Development	EM 3	0.3	0	RACK ICING
East Millinocket Development	EM 3	0.3	0	RACK DEBRIS
East Millinocket Development	EM 3	0.1	0	RACK DEBRIS
East Millinocket Development	EM 3	0.3	0	RACK IN #6 BREAKER
East Millinocket Development	EM 3	2.1	2	BROKEN CROSS ARM ON DOLBY TRANSMISSION LINE
East Millinocket Development	EM 3	0.4	0	BROKEN CROSS ARM ON DOLBY TRANSMISSION LINE
East Millinocket Development	EM 3	0.0	0	RACK ICING
East Millinocket Development	EM 3	16.6	11	RACK ICING
East Millinocket Development	EM 3	6.0	5	RACK ICING
East Millinocket Development	EM 3	0.4	2	RACKING OUT UNIT BREAKER
East Millinocket Development	EM 3	2.1	9	LINE BUMP CAUSED BY TREE FALLING ON LINE (EXTERNAL)
East Millinocket Development	EM 3	2.9	3	RACK DEBRIS
East Millinocket Development	EM 3	4.5	4	LIGHTNING STRIKE
East Millinocket Development	EM 3	1149.8	600	BEARING DAMAGE
East Millinocket Development	EM 4	17.2	10	ICING
East Millinocket Development	EM 4	19.1	13	ICING
East Millinocket Development	EM 4	0.4	0	#3 BREAKER RACK IN
East Millinocket Development	EM 4	9.5	7	ICING
East Millinocket Development	EM 4	39.0	29	RACK ICING
East Millinocket Development	EM 4	19.9	15	RACK ICING
East Millinocket Development	EM 4	4.9	4	RACK ICING
East Millinocket Development	EM 4	12.0	9	RACK ICING
East Millinocket Development	EM 4	45.6	34	BROKEN INSULATOR
East Millinocket Development	EM 4	13.4	10	RACK ICING
East Millinocket Development	EM 4	0.7	1	RACK ICING
East Millinocket Development	EM 4	0.3	0	RACK DEBRIS
East Millinocket Development	EM 4	5.0	5	RACK DEBRIS
East Millinocket Development	EM 4	0.3	0	RACK IN #6 BREAKER
East Millinocket Development	EM 4	2.1	2	BROKEN CROSS ARM ON DOLBY TRANSMISSION LINE
East Millinocket Development	EM 4	0.4	0	BROKEN CROSS ARM ON DOLBY TRANSMISSION LINE
East Millinocket Development	EM 4	16.8	11	RACK ICING
East Millinocket Development	EM 4	6.9	5	RACK ICING
East Millinocket Development	EM 4	0.7	2	RACK OUT UNIT BREAKER
East Millinocket Development	EM 4	21.0	72	RACK ICING
East Millinocket Development	EM 4	13.6	47	TRIPPED DUE TO ICING
East Millinocket Development	EM 4	5.7	17	VERSANT LINE 62 OUTAGE
East Millinocket Development	EM 4	517.2	24	BREAKER RE-CHARGE TROUBLE
East Millinocket Development	EM 4	0.1	0	BREAKER ISOLATION
East Millinocket Development	EM 4	11.8	74	RACK ICING
East Millinocket Development	EM 4	1.5	7	BIRD IN SUBSTATION
East Millinocket Development	EM 4	2.9	3	RACK DEBRIS
East Millinocket Development	EM 4	4.5	4	LIGHTNING STRIKE
East Millinocket Development	EM 4	1149.8	513	BEARING DAMAGE
East Millinocket Development	EM 4	228.9	1228	TRANSFORMER AND BREAKER TRIP DURING HURRICANE LEE
East Millinocket Development	EM 5	11.8	9	ICING
East Millinocket Development	EM 5	17.2	9	ICING
East Millinocket Development	EM 5	19.1	14	ICING
East Millinocket Development	EM 5	0.4	0	#3 BREAKER RACK IN
East Millinocket Development	EM 5	39.5	29	RACK ICING
East Millinocket Development	EM 5	16.8	13	RACK ICING
East Millinocket Development	EM 5	5.5	4	RACK ICING
East Millinocket Development	EM 5	10.1	8	RACK ICING
East Millinocket Development	EM 5	45.5	34	BROKEN INSULATOR
East Millinocket Development	EM 5	16.8	13	RACK ICING
East Millinocket Development	EM 5	0.5	0	RACK ICE

Development	Unit(s)*	Duration	Lost MWh	Reason for Outage
		(Hours)		
East Millinocket Development	EM 5	0.3	0	RACK ICING
East Millinocket Development	EM 5	0.6	1	RACK ICING
East Millinocket Development	EM 5	1.8	2	RACK ICING
East Millinocket Development	EM 5	1.1	1	RACK DEBRIS
East Millinocket Development	EM 5	0.3	0	RACK DEBRIS
East Millinocket Development	EM 5	41.8	37	TURBINE PIT FROM UNIT 5 LEAKING INTO
East Millinocket Development	EM 5	0.4	0	RACK IN #6 BREAKER
East Millinocket Development	EM 5	2.1	2	BROKEN CROSS ARM ON DOLBY TRANSMISSION LINE
East Millinocket Development	EM 5	0.4	0	BROKEN CROSS ARM ON DOLBY TRANSMISSION LINE
East Millinocket Development	EM 5	17.5	12	RACK ICING
East Millinocket Development	EM 5	7.5	6	RACK ICING
East Millinocket Development	EM 5	1473.5	987	UNIT TRIPPED ON HIGH THRUST BEARING TEMP
East Millinocket Development	EM 5	0.5	2	RACK IN UNIT BREAKER
East Millinocket Development	EM 5	1.6	5	T-LINE GROUND FAULT DUE TO HIGH WINDS
East Millinocket Development	EM 5	2.6	16	LINE BUMP CAUSED BY DOLBY STATION TRIP
East Millinocket Development	EM 5	19.4	116	RACK ICING
East Millinocket Development	EM 5	2.8	3	RACK DEBRIS
East Millinocket Development	EM 5	4.5	4	LIGHTNING STRIKE
East Millinocket Development	EM 5	4.8	4	OFFLINE FOR THRUST BEARING TEMP.
East Millinocket Development	EM 5	31.3	33	TURBINE PACKING LEAK
East Millinocket Development	EM 6	0.4	0	#3 BREAKER RACK IN
East Millinocket Development	EM 6	39.0	29	RACK ICING
East Millinocket Development	EM 6	45.4	34	BROKEN INSULATOR
East Millinocket Development	EM 6	0.3	0	RACK ICING
East Millinocket Development	EM 6	1.0	1	RACK ICING
East Millinocket Development	EM 6	1.3	1	RACK ICING
East Millinocket Development	EM 6	5.4	6	RACK DEBRIS
East Millinocket Development	EM 6	0.3	0	RACK DEBRIS
East Millinocket Development	EM 6	2.1	2	BROKEN CROSS ARM ON DOLBY TRANSMISSION LINE
East Millinocket Development	EM 6	0.4	0	BROKEN CROSS ARM ON DOLBY TRANSMISSION LINE
East Millinocket Development	EM 6	3.2	3	LIGHTNING
East Millinocket Development	EM 6	17.6	12	RACK ICING
East Millinocket Development	EM 6	7.5	6	RACK ICING
East Millinocket Development	EM 6	10.7	10	RACK ICING
East Millinocket Development	EM 6	0.1	0	OFFLINE DUE TO RACK DEBRIS
East Millinocket Development	EM 6	3.3	3	RACK DEBRIS
East Millinocket Development	EM 6	4.5	4	LIGHTNING STRIKE
TOTAL		5962	4836	

*NT = North Twin Development; M = Millinocket Development; D = Dolby Development; EM = East Millinocket Development.