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June 30, 2011

Kimberly Bose,
Secretary
Federal Energy Regulatory Commission
888 First Street, N. E.
Mailcode PJ – 12.1
Washington, DC 20426

Subject: FFP Project 90, LLC Application for Preliminary Permit

Dear Secretary Bose:

On behalf of FFP Project 90, LLC, enclosed please find a completed application for a preliminary permit pursuant to Section 4.30 of the Commission's regulations for the **Carlyle Lake Water Power Project**.

If you have any questions regarding this submittal, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Ramya Swaminathan". The signature is written in a cursive, flowing style.

Ramya Swaminathan
FFP Project 90, LLC

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR PRELIMINARY PERMIT

Carlyle Lake Water Power Project



**FFP Project 90, LLC
239 Causeway Street, Suite 300
Boston, MA 02114**

June 2011

VERIFICATION STATEMENT

This application for a preliminary permit for Carlyle Lake Water Power Project is executed in the State of Massachusetts, Suffolk County.

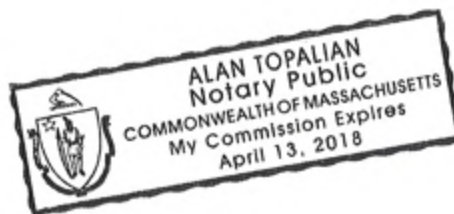
Ramya Swaminathan, Chief Operating Officer of Free Flow Power Corporation, the Managing Member of FFP Project 90, LLC, being duly sworn, deposes and says that the contents of this Preliminary Permit Application are true to the best of her knowledge or belief. The undersigned Applicant has signed the application on this 30 of June 2011.

By: 
Ramya Swaminathan, Chief Operating Officer
Free Flow Power Corporation

Subscribed and sworn before me, a Notary Public of the State of Massachusetts this 30 of June 2011.

My commission expires on 4/13/2018

By: 



**BEFORE THE UNITED STATES FEDERAL ENERGY REGULATORY COMMISSION
APPLICATION FOR PRELIMINARY PERMIT**

I. Statement of Application

FFP Project 90, LLC applies to the Federal Energy Regulatory Commission for a preliminary permit for the proposed Carlyle Lake Water Power Project, as described in the attached exhibits. This application is made in order that the Applicant may secure and maintain priority of licensing for the project under Part 1 of the Federal Power Act while obtaining the data and performing the acts required to determine the feasibility of the project and to support an application for license.

2. The location of the proposed project is:

State:	Illinois
County:	Clinton
Nearby Town:	Carlyle
Body of Water:	Kaskaskia River

3. The exact name, business address, and telephone number of the Applicant is:

FFP Project 90, LLC
239 Causeway Street, Suite 300
Boston, MA 02114
978.283.2822

The exact name, address, and telephone number of persons authorized to act as agent for the Applicant in this application are:

Ramya Swaminathan
Free Flow Power Corporation
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4. Preference under Section 7(a) of the Federal Power Act

FFP Project 90, LLC is a domestic limited liability company, and is not claiming preference under the section 7(a) of the Federal Power Act.

5. Term of Permit

The proposed term of the requested permit is 36 months.

6. Existing Dams or Other Project Facilities

The project will use the existing dam located on Carlyle Lake, which is owned and operated by the U.S. Army Corps of Engineers. The address for the district and local offices are:

U.S. Army Corps of Engineers
St. Louis District Public Affairs Office
1222 Spruce Street
St. Louis, MO 63103-2833

U.S. Army Corps of Engineers
St. Louis District
Carlyle Lake Project Office
801 Lake Road
Carlyle, IL 62231

Section 4.32(a) Information

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

FFP Project 90, LLC is the only entity that has or intends to obtain and will maintain any proprietary rights necessary to construct, operate, or maintain the proposed property.

2. Identify:

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

The project is on Carlyle Lake and is located in the following county:

Clinton County, Illinois
Mary Rakers
Clinton County Clerk & Recorder
850 Fairfax Street
P.O. Box 308
Carlyle, IL 62231

The following Federal facility would be utilized by the proposed project:

The project will use the existing dam located on Carlyle Lake, which is owned and operated by the U.S. Army Corps of Engineers. The address for the district and local offices are:

St. Louis District Public Affairs Office
1222 Spruce Street
St. Louis, MO 63103-2833

U.S. Army Corps of Engineers
St. Louis District
Carlyle Lake Project Office
801 Lake Road
Carlyle, IL 62231

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

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

City of Carlyle, Illinois
Janine Ehlers, City Clerk
Carlyle City Hall
850 Franklin Street
Carlyle, IL 62231

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

City of Centralia, Illinois

Mayor Rebecca Ault
Centralia City Hall
222 South Poplar Street
Centralia, IL 62801

City of Clinton, Illinois

City of Clinton – City Clerk
City Hall
118 W. Washington Street
P.O. Box 378
Clinton, IL 61727

City of Washington, Illinois

Patricia S. Brown, City Clerk
City Hall
301 Walnut Street
Washington, IL 61571

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

The proposed project would use an existing dam owned and operated by the U.S. Army Corps of Engineers as stated above.

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

Illinois's 19th Congressional District

Senator Richard Durbin
250 W. Cherry Street, Suite 115-D
Carbondale, IL 62901

Senator Mark Kirk
607 East Adams, Suite 1520
Springfield, IL 62701

Congressman John Shimkus
221 East Broadway, Suite 102
Centralia, IL 62801

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

The applicant has identified the following Indian Tribes that may potentially have an interest or be affected by the project using the National Park Service's Native American Consultation Database:

Delaware Nation, Oklahoma

Mr. Edgar L. French
Delaware Nation
P.O. Box 825
Anadarko, OK 73005

Iowa Tribe of Kansas and Nebraska

Mr. Leon Campbell
Iowa Tribe of Kansas & Nebraska
3345 Thrasher Rd.
White Cloud, KS 66094

Iowa Tribe of Oklahoma

Ms. Emily Bernadette Huber
Iowa Tribe of Oklahoma
Rt. 1, Box 721
Perkins, OK 74059

Peoria Tribe of Indians of Oklahoma

Mr. John P. Froman
Peoria Tribe of Indians of Oklahoma
P.O. Box 1527
Miami, OK 74355-1527

Sac & Fox Nation of Missouri in Kansas and Nebraska

Ms. Sandra Keo
Sac and Fox Nation of Missouri
305 N. Main St.
Reserve, KS 66434

Sac & Fox Nation, Oklahoma

Ms. Kay Rhoads
Sac and Fox Nation of Oklahoma
Route 2, Box 246
Stroud, OK 74079

Sac & Fox Tribe of the Mississippi in Iowa

Mr. Homer Bear, Jr.
Sac and Fox Tribe of the Mississippi in Iowa
349 Meskwaki Rd.
Tama, IA 52339-9629

**BEFORE THE UNITED STATES FEDERAL ENERGY REGULATORY COMMISSION
APPLICATION FOR PRELIMINARY PERMIT**

EXHIBIT 1 – GENERAL DESCRIPTION

Section 4.81(b)

1. General Configuration and Information

The proposed Carlyle Lake Water Power Project will be located on Carlyle Lake, which is situated on the Kaskaskia River, and lies approximately 60 miles east of St. Louis, Missouri and .5 miles northeast of Carlyle, Illinois. The Project will utilize the existing dam that was completed in 1966 and is owned and operated by the U.S. Army Corps of Engineers. The Carlyle Lake Water Power Project was originally erected for the purposes of flood control, creating recreational activities, augmenting water supplies and flows for navigation on the Kaskaskia River. The existing Carlyle Lake Dam is further described in the following table:

Carlyle Lake Dam Water Power Project	
Year Completed	1966
Location	Carlyle, IL
Water Body	Kaskaskia River
Latitude	38°37'8.75"N
Longitude	89°21'11.73"W
Number of Tainter Gates	4
Overall Length	6,570 feet
Structural Height	68 feet
Storage Capacity	286,000 acre feet

The proposed development of the site involves the construction of a new 2.0 MW hydropower facility at the west end of the existing Carlyle Lake Dam. The project will consist of the following major elements:

Existing Dam – The earth fill dam has an overall length of 6,570 feet and includes an outlet structure comprised of four tainter gates.

Intake – A new 50 foot long, 20 foot wide concrete intake structure would be built adjacent to the west side of the existing gated outlet structure and contain trashracks, an operators platform and a 12 foot vertical slide gate.

Penstock – A 270 foot long, 12 foot diameter buried steel penstock would extend from the new intake to the new powerhouse.

Turbine-Generator – A single turbine-generator rated at 2.0 MW will be installed in the new powerhouse.

Powerhouse – A new reinforced concrete powerhouse, 40 feet by 40 feet in plan will be constructed at the end of the new penstock adjacent to the existing stilling basin.

Substation – A new 2 MVA substation will be constructed on the roof of the new powerhouse.

Access Roads – No new access roads are proposed for the project.

2. Reservoirs

The existing Carlyle Lake Dam controls a drainage area of 2,717 square miles and has a surface area of 24,580 acres. The surface area is 24,583 acres at a summer pool elevation of 445 feet m.s.l. which corresponds to a storage capacity of 286,000 acre feet. Winter pool level is maintained at 21,890 surface acres at the elevation of 443 feet m.s.l.

The proposed project will operate in a strictly run-of-river mode, in cooperation and accordance with the USACE operational and management guidelines for the structure. There is no usable storage capacity associated with the proposed hydroelectric project at the site, only the seasonal store and release lake management currently utilized by the USACE.

3. Transmission Lines

A new transmission line will be routed to the local utility. The interconnection features and characteristics, including the final transmission line design, voltage, and route, are dependent upon the results of studies to be carried out during the term of the permit. However, the applicant anticipates the transmission line will be a 69 kV overhead line approximately 3,750 feet in length.

4. Turbines and Generators

- A single vertical Kaplan turbine, with an installed nameplate capacity of 2.0 MW will be installed.
- The estimated average annual energy production is 10 GWh.
- The hydraulic head used for estimating capacity and energy output is 27 feet.
- The turbine and generator will be newly manufactured for the project.

5. Lands Within The United States

The proposed Carlyle Lake Water Power Project will be located on Federal property owned by the United States Army Corps of Engineers. The majority of the project will be located within the bounds of the Carlyle Lake Dam property. A portion of the transmission line and the transmission interconnection will be located nearby on non-Federal Lands.

6. Development, Conservation, and Utilization of Water Resource

The Carlyle Lake Water Power Project involves the environmentally responsible, low impact development and utilization of a currently unused source of renewable energy which will provide a clean source of electrical energy to help meet the region's energy and capacity needs.

**BEFORE THE UNITED STATES FEDERAL ENERGY REGULATORY COMMISSION
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EXHIBIT 2 – DESCRIPTION OF STUDIES

Upon issuance of a Preliminary Permit, applicant proposes to conduct detailed studies to determine the ultimate feasibility of the project and potentially support the preparation of an application for License, as detailed below.

1. General Description of Proposed Studies

The following studies are planned:

(i) Description of proposed studies

- a) Information Review: Publicly available general information will be compiled and reviewed. This will include engineering and “as built” records from the original construction of the existing dam, local survey data, utility distribution and transmission information, material previously submitted to FERC for earlier development initiatives, as well as any studies or surveys that have been done concerning the dam structure, the upstream pool, and the reach of the waterway near the project.
- b) Hydrologic Studies: Publicly available USGS and USACE gaging station record data will be used to develop detailed daily stream flow forecasts at the project site. USACE operational information for the gates will be incorporated to determine actual flows available for generation. Historic USACE data records for upper and lower pool elevations, as well as field data will be gathered and used to develop head data for the proposed turbine location. A combination of flow and stage data will be used to model hydraulics and support energy production calculations at the site.
- c) Develop and Review Alternatives: Project layout and sizing alternatives will be developed and evaluated in order to maximize the power generated, minimize environmental impact, and otherwise select the optimal project to ensure the best possible use of the resource.
- d) Preliminary Engineering and Design: The information generated in the preceding studies will be incorporated into an optimized design suitable for a definitive estimate of project cost and feasibility.
- e) Energy Generation and Cost Estimates: The flow and head data created in Task (b) coupled with the selected project design alternatives from Tasks (c) and (d) will allow energy generation to be modeled for the project. Daily forecast energy generation will be determined and typical, wet, and dry year generation estimated will be made. Initial budgetary development and construction costs will be developed. A tentative permitting and construction schedule will be defined.
- f) Feasibility Analysis: The previous work will be compiled into a final feasibility analysis along with data gathered on then-current and forecast wholesale power prices, financing costs, and O&M costs to determine the economic feasibility of the project.

If the result of the feasibility analysis is positive, the following activities are envisioned to take place during the remaining preliminary permit term to support Licensing and development of the project:

- g) Informal Stakeholder Consultation and Discussions
- h) Develop Notice of Intent (NOI)
- i) Develop Pre-Application Document (PAD)
- j) Begin Scoping Activities

It is anticipated tasks (a) through (f) will be completed within 12 months of the permit issuance. Tasks (g) through (j), if undertaken, will be performed during the remaining permit term.

(ii) New Road Construction

Access for all field surveys will be via existing roads. No new roads are required for the proposed project.

2. New Dam Construction

The proposed project will not require construction of any type of dam as the facility will be located at the existing U.S. Army Corps of Engineers.

3. Waiver

The Applicant requests that the Commission waive the field study requirement because no new dam under the Section 4.81(c)(2Xiii) is proposed.

4. Statement of Cost and Financing

(i) Estimated Costs:

The total cost for completing tasks (a) through (f) as outlined above is estimated to be \$100,000. If task (g) through (j) are undertaken the total costs is estimated to not exceed \$500,000.

(ii) Expected Sources of Financing:

The studies will be financed by the Applicant.

**BEFORE THE UNITED STATES FEDERAL ENERGY REGULATORY COMMISSION
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EXHIBIT 3 – MAPS

1. General Location of Proposed Project

Attached are maps showing the location, the project layout, and the project boundary for the proposed project. The project location is shown on Map 1, Vicinity and Map 2, Location.

2. Project Features

The probable locations of the primary project features are shown in Map 3, Layout.

3. Proposed Boundary

The proposed project boundary is shown on Map 4, Boundary.

4. National Wild and Scenic Rivers Systems

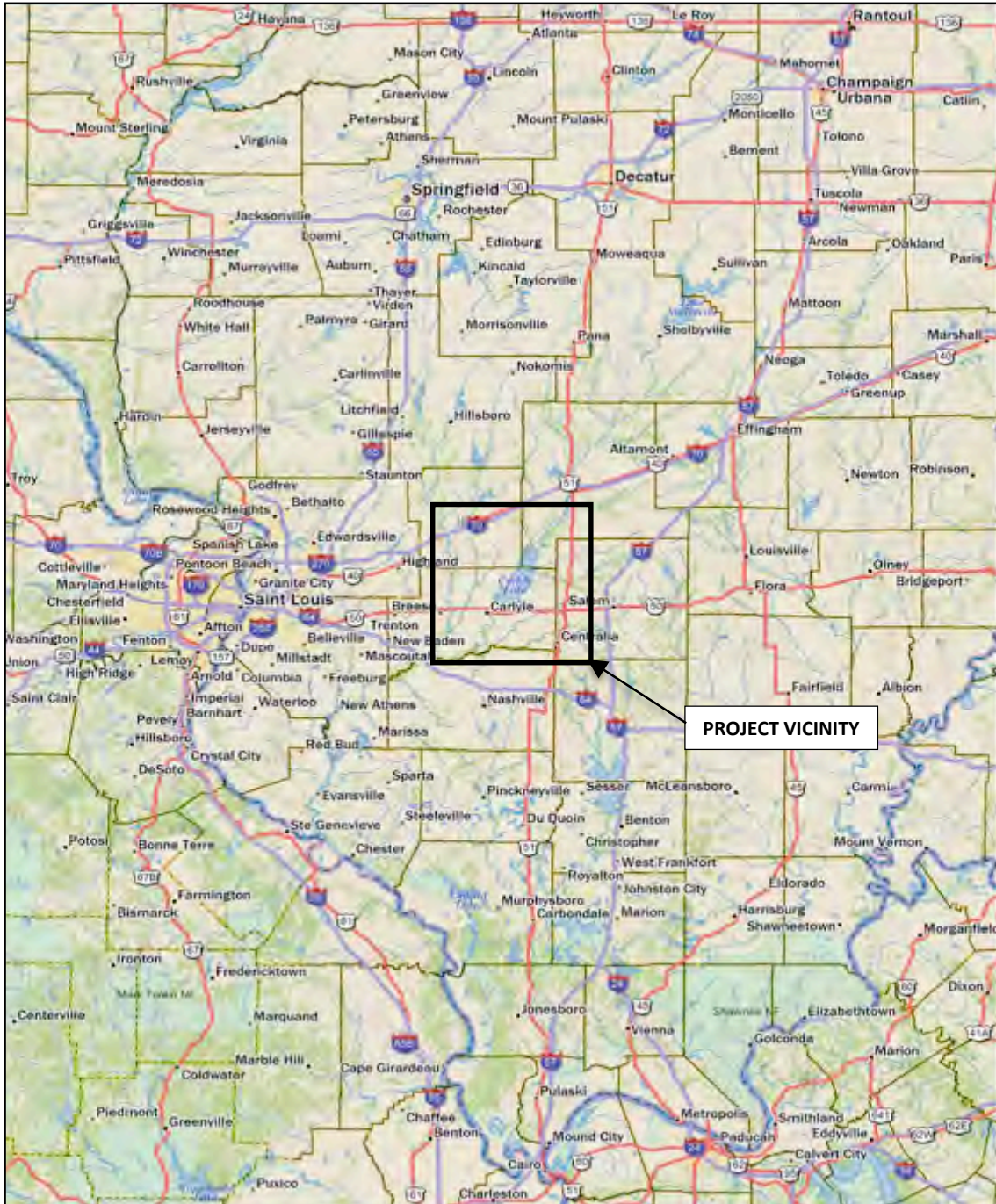
No areas in the project vicinity are included (or are known to have been designated for study for inclusion) in the National Wild and Scenic Rivers System.

5. Designated Wilderness Areas

No areas within the project boundary have been designated as wilderness area. No areas within the project boundary are known to be recommended for designation as wilderness areas or designated as wilderness study areas.

Carlyle Lake Water Power Project

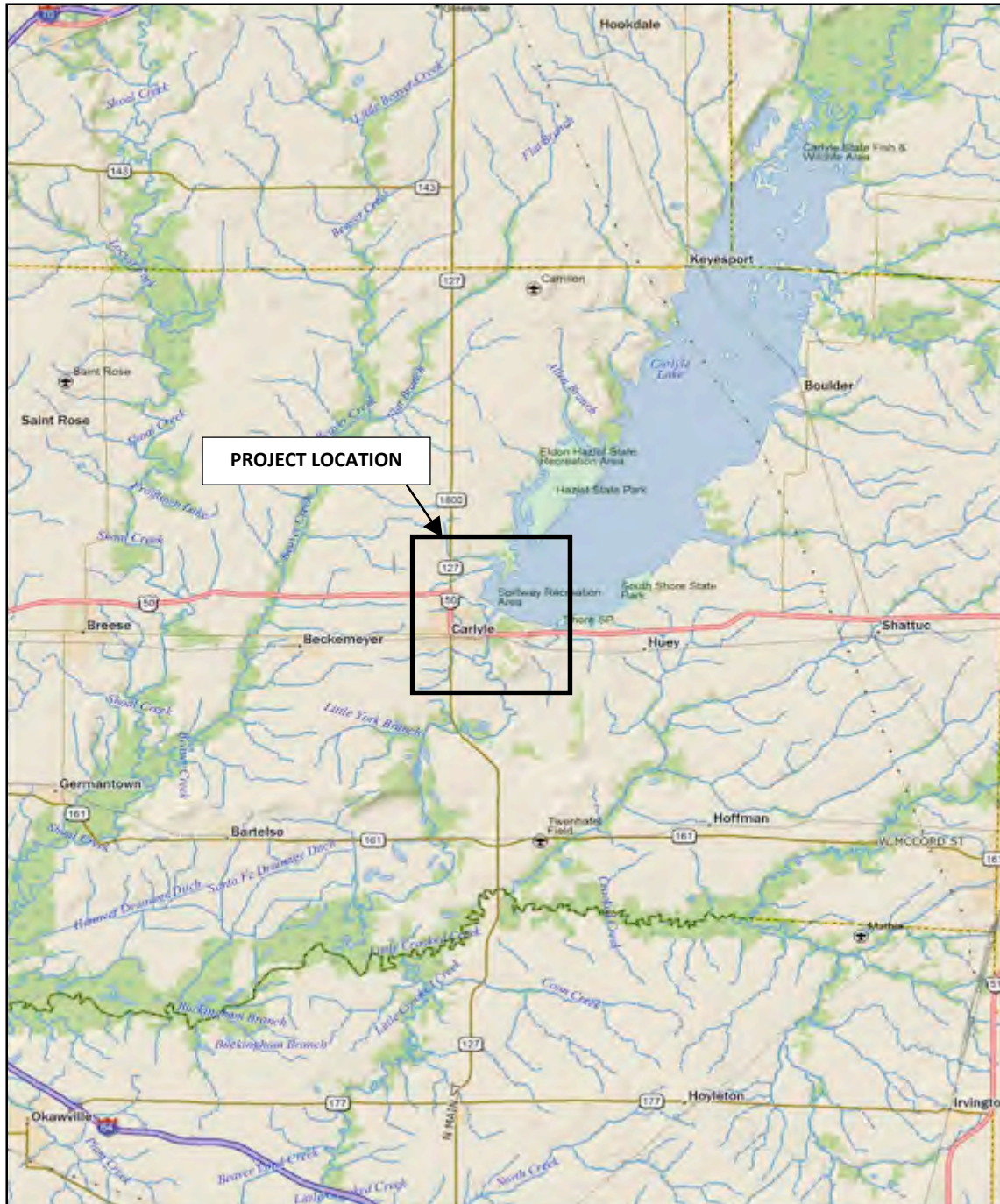
MAP 1 - VICINITY



0 50 100 MILES

Carlyle Lake Water Power Project

MAP 2 - LOCATION



0 5 10 MILES

Carlyle Lake Water Power Project MAP 3 - LAYOUT



0 100 200 400 FEET

Carlyle Lake Water Power Project MAP 4 - BOUNDARY



0 250 500 1,000 2,000 FEET

