

**PRELIMINARY PERMIT APPLICATION**

**For**

**WILD FLOWER WATER PUMPED STORAGE  
HYDROELECTRIC PROJECT**

(Docket # P-13842-000)

**Pursuant to**

**18 CFR §4.81**

**For**

**License for Major Unconstructed Project**

**Before the**

**FEDERAL ENERGY REGULATORY COMMISSION**

**By**

Wild Flower Water, LLC  
4265 Kellway Circle  
Addison, Texas 75004

**Prepared by**

Halff Associates, Inc  
1201 North Bowser Road  
Richardson, Texas 75081

**September 2010**

(revised March 2010)

**INITIAL STATEMENT**

1. WILD FLOWER WATER, LLC. applies to the Federal Energy Regulatory Commission for a preliminary permit for the proposed WILD FLOWER WATER PUMPED STORAGE HYDROELECTRIC PROJECT, as described in the attached exhibits. This application is made in order that the applicant may secure and maintain priority of application for a license for the project under Part I 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 a license.

**2. The location of the proposed project is:**

State or territory: Oklahoma  
County: Pushmataha County  
Township or nearby town: 13.5 miles east of Clayton, OK (pop. 719)  
Latitude/Longitude of Power House: 34.619° N, 95.122° W  
Stream or other body of water: Upper Reservoir: Long Creek  
Lower Reservoir: None  
Diversion Weir or off-channel wet well: Kiamichi River

**3. The exact name, business address, and telephone number of the applicant are:**

Business name: Wild Flower Water, LLC.  
Mailing address: 4265 Kellway Circle  
Addison, TX 75001  
Phone: (972) 239-0707

Alternate Contact: Fred Brown, P.E. (Agent)  
Mailing address: 4265 Kellway Circle  
Addison, TX 75001  
Phone: (972) 239-0707  
Email address: [fbrown@tomlininvestments.com](mailto:fbrown@tomlininvestments.com)

Alternate Contact: Russell Killen, P.E. (Engineer)  
Mailing address: 4000 Fossil Creek Blvd.  
Fort Worth, TX 76137  
Phone: (817) 847-1422  
Email address: [RKillen@halff.com](mailto:RKillen@halff.com)

4. Wild Flower Water, LLC. is a domestic corporation and is not claiming municipal preference under section 7(a) of the Federal Power Act.

5. The proposed term of the requested permit is 36 months.

6. There is no existing dam or project facility. A new dam will be constructed across Long Creek to form the Upper Reservoir. An off-channel dam will be constructed south of the Kiamichi River to form the impoundment for the lower reservoir. An in-channel weir approximately 2 to 5 feet high will be constructed across the Kiamichi River to form a pool from where water can be diverted to a wet well and pumped to fill the lower reservoir to provide make up water lost due to evaporation and percolation. However, in the design phase the weir may be eliminated and only an off channel wet well may be constructed to avoid disturbing the pool elevation of the river in order to avoid impacting the flow regimes in the river and to protect mussels found along the river bed. Flow regimes will be monitored and pumping will only be done when there is sufficient water flow that the base flow, downstream of the diversion point, that is required for the survival of the mussels is maintained.

**7. Contact information for all federal, state, local political entities and facilities identified, and affected Indian tribes (§4.32(a)(2))**

a. *Every county in which any part of the project, and any Federal facilities that would be used by the project, would be located;*

Pushmataha County, Oklahoma  
203 SW 3Rd St  
County Courthouse  
Antlers, OK 74523  
Phone: (580)298-2512

b. *Every city, town, or similar local political subdivision:*

i. *In which any part of the project, and any Federal facilities that would be used by the project, would be located;*

ii. *That has a population of 5,000 or more people and is located within 15 miles of the project dam;*

The project is located in an unincorporated area of Pushmataha County and not located within any city/town limits. There are no cities or towns with a population of 5,000 or more within 15 miles of the project dam. The closest town is Clayton, OK, 13.5 miles to the west of the site, with a population of 719 (2009 Census).

c. *Every irrigation district, drainage district, or similar special purpose political subdivision:*

i. *In which any part of the project, and any Federal facilities that would be used by the project, would be located; or*

ii. *That owns, operates, maintains, or uses any project facilities or any Federal facilities that would be used by the project;*

## Revised Permit Application for a Major Unconstructed Project Pursuant to 18 CFR §4.81

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Pushmataha Co. Rural Water District #1  
Manager: Jerry Buchanan  
Phone: (918) 569-4326  
Supply Type: Purchase Water  
Supply Source: Surface water

Pushmataha Co. RWD #5  
Manager: Larry Freeman  
Phone: (918) 755-4545  
Supply Type: Supplied  
Supply Source: Surface water

Pushmataha Co. Rural Water District #2  
Manager: Orville Dighton  
Phone: (918) 563-4314  
Supply Type: Purchase Water  
Supply Source: Surface water

Pushmataha Antlers Public Works Authority  
Manager: Larry Ellison  
Phone: (580) 298-2315 2500  
Supply Type: Supplied  
Supply Source: Ground water

Pushmataha Pushmataha Co. RWD #3  
Manager: Buster Bell  
Phone: (580) 298-3312  
Supply Type: Supplied  
Supply Source: Surface water

Pushmataha Clayton Public Works Authority  
Manager: Thomas Hendershot  
Phone: (918) 569-4135  
Supply Type: Supplied  
Supply Source: Surface water

*d. Every other political subdivision in the general area of the project that there is reason to believe would likely be interested in, or affected by, the application;*

US Army Corps of Engineers, Sardis Lake  
HC 60 Box 4195  
Clayton, Oklahoma 74536  
Phone: (918) 569-4131

NRCS - Pushmataha County  
510 N. Highway 271  
Antlers, OK 74523-0190  
Telephone: 580-298-3281

Oklahoma Water Resources Board –  
Kiamichi River Basin Working Group  
Duane A. Smith, Executive Director  
3800 N. Classen  
Oklahoma City, OK 73118  
(405)530-8800

City of Antlers  
100 SE 2nd Street  
Antlers, OK 74523-4000  
Telephone: (580)298-3756  
Fax: (580)298-2760

Pushmataha Conservation District  
P.O. Box 190  
Antlers, OK 74523-0190  
Phone: 580/298-3668

Town of Albion  
P.O. Box 42  
Albion, OK 74521-0009  
Telephone: None

*e. All Indian tribes that may be affected by the project.*

Choctaw Nation of Oklahoma  
P.O. Box 1210  
Durant, OK 74702-1210  
1-800-522-6170

Chickasaw Nation of Oklahoma  
P.O. Box 1548  
Ada, OK 74821  
(580) 436-7259

EXHIBIT 1

1. The number, physical composition, dimensions, general configuration and, where applicable, age and condition of any:

**Dams**

Upper Dam across Long Creek

Type: Earth Embankment  
Composition: Earth  
Height: 85 feet  
Base Length (feet): 850 feet  
Crest Length (feet): 800 feet  
Latitude/Longitude: 34.596° N, 95.133° W

Lower Dam

Type: Earth Embankment  
Composition: Earth  
Height: 50 feet  
Base Length (feet): 500 feet  
Crest Length (feet): 10,500 feet  
Latitude/Longitude: 34.627° N, 95.122° W

Diversion Weir Across the Kiamichi River

Type: Overflow weir  
Composition: Reinforced Concrete  
Height: 2 to 5 feet  
Base Length (feet): 3 feet  
Crest Length (feet): 200 feet  
Latitude/Longitude: 34.626° N, 95.125° W

**Spillways**

Both the upper and lower reservoirs will have emergency spillways.

**Penstocks**

Length: 7,500 feet  
Diameter: 2-28 feet  
Composition: Steel and Reinforced Concrete

**Powerhouses**

Number of units: 4  
Proposed capacity: 4-275 MW for a total of 1100 MW  
Latitude/Longitude: 34.619° N, 95.122° W

**Tailraces**

Four of variable size.

**Description of Other Project Structures**

The project will consist of two, approximately 10,000 acre-feet reservoirs, two 28-ft diameter, 7,500-ft-long steel and reinforced concrete tunneled penstock, connecting to 4 generating pump/turbine units located in a 250-ft x 120-ft x 80-ft tall powerhouse. A third in-channel weir will be constructed across the Kiamichi River to create an impoundment from where water to fill the lower reservoir can be pumped. A duplex pump station (2-6000 GPM) and 24 inch diameter water conveyance pipe will deliver the initial fill-up water and make up water when needed. Approximately 12000 acre feet will be required for the initial fill-up and 3000 acre feet per year will be required to provide makeup water for water losses due to evaporation. Water losses due to percolation have not been estimated yet. The upper and lower lakes should yield sufficient water to make up all the losses. Occasionally water from the Kiamichi will be pumped to supplement water captured by the two reservoirs.

2. **The estimated number, surface area, storage capacity, and normal maximum surface elevation (mean sea level) of any reservoirs, whether existing or proposed, that would be part of the project:**

Upper Reservoir

Surface area: 220 acres  
Watershed area 2.50 Square miles  
Estimated yield 2250 acre feet  
Storage capacity: 8000 acre-feet  
Normal maximum surface elevation: 1545 msl  
Latitude/Longitude: 34.597° N, 95.127° W

Lower Reservoir

Surface area: 300 acres  
Watershed area 2.1 square miles  
Estimated yield 1900 acre feet  
Storage capacity: 8400 acre-feet  
Normal maximum surface elevation: 645 msl  
Latitude/Longitude: 34.625° N, 95.116° W

Diversion Weir across the Kiamichi River

Surface area: 50 acres  
Storage capacity: 100 acre-feet  
Normal maximum surface elevation: 580 msl  
Latitude/Longitude: 34.627° N, 95.127° W

**Revised Permit Application for a Major Unconstructed Project Pursuant to 18 CFR §4.81**

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- 3. The estimated number, length, voltage, interconnections, and, where applicable, age and condition, of any primary transmission lines whether existing or proposed, that would be part of the project:**

The location and connection point (s) to the grid will be established by SPP after a grid study is complete.

- 4. The total estimated average annual energy production and installed capacity (provide only one energy and capacity value), the hydraulic head for estimating capacity and energy output, and the estimated number, rated capacity, and, where applicable, the age and condition, of any turbines and generators, whether existing or proposed, that would be part of the project works:**

Estimated average annual energy output:	7 hours of generation, 7 days a week will produce approximately 2,810,000 MWhs annually
Number of generating units:	4
Turbine ratings per unit:	4325 CFS
Generator rating per unit:	275 MW
Single capacity rating per generating unit:	275 MW
Existing and/or proposed generating equipment:	The four 275 MW generating units are proposed
Hydraulic head:	Max: 900 feet Min: 875 feet

- 5. All lands of the United States that are enclosed within the proposed project boundary described and shown in Exhibit 4 (3) of this document, identified and tabulated on a separate sheet by legal subdivisions of a public land survey of the affected area, if available. If the project boundary includes lands of the United States, such lands must be identified on a completed land description form, provided by the Commission. The project location must identify any Federal reservation, Federal tracts, and townships of the public land surveys (or official protractations thereof if unsurveyed). A copy of the form must also be sent to the Bureau of Land Management state office where the project is located.**

There are no Federal lands located within the proposed project area.

- 6. Any other information demonstrating in what manner the proposed project would develop, conserve, and utilize in the public interest the water resources of the region.**

Upon approval, the proposed Pump Storage Hydroelectric Project will generate electric power during peak demand periods thereby reducing the need for standby power generating units. The facility will absorb and store excess power from the supply system, and in particular will increase the reliability of wind generated power in the central United States. The facility will

contribute needed relief to the current national energy crisis. Regarding water use, the lower lake, with a volume of 10,000 acre-feet, is proposed to be initially filled from the nearby Kiamichi River. After initial fill-up, the only additional water needed will be make-up water for evaporation and percolation losses. During rainfall events, the proposed upper and lower lakes will capture an estimated 4150 acre feet year which would satisfy the gross evaporation losses of approximately 2900 acre feet per year. The Kiamichi weir and pump station will remain in standby to provide make up water if needed.



EXHIBIT 2

1. General requirements

i. **Any studies, investigations, tests, or surveys that are proposed to be carried out, and any that have already taken place, for the purposes of determining the technical, economic, and financial feasibility of the proposed project, taking into consideration its environmental impacts, and of preparing an application for a license for the project.**

- Groundwater studies
- Energy production studies
- Environmental impact studies
- Water quality studies
- Engineering studies, including soil studies, test pits and core holes.
- Study on energy needs
- Hydrologic and hydraulic studies
- Water rights studies
- Additional studies may be required as issues arise

ii. **The approximate locations and nature of any new roads that would be built for the purpose of conducting the studies.**

There will be approximately 2.0 miles of new roads (unimproved surface) required for the purposes of conducting studies described in this exhibit and access to the two reservoirs. The entire site is on private property with some county roads and forest trails in the area. The lower reservoir site is on ranch land, and will be accessed from gravel roads and some unimproved ranch roads in the area; The upper reservoir site is on forested land, also private property. The site will be accessed via K Trail, a forest road connecting to Indian Highway to the east of the site. Some private trails exist branching off K Trail into the reservoir site. Other trails may need to be established to provide access to geotechnical drilling sites.

2. Work plan for new dam construction

i. **A description, including the approximate location, of any field study, test, or other activity that may alter or disturb lands or waters in the vicinity of the proposed project, including floodplains and wetlands; measures that would be taken to minimize any such disturbance; and measures that would be taken to restore the altered or disturbed areas.**

A limited geotechnical investigation is proposed to initially determine the subsurface conditions at the project site, including the reservoir sites, the penstock route and the powerhouse site. No floodplains or wetlands are proposed to be disturbed. Access will be available via existing and new roads as described in Item 1 (ii) above.

- ii. A proposed schedule (a chart or graph may be used), the total duration of which does not exceed the proposed term of the permit, showing the intervals at which the studies, investigations, tests, and surveys, identified under this paragraph are proposed to be completed.**

It is the intent of the applicant to file a PAD/NOI during the 3 year duration of the permit. The applicant will then follow the ILP schedule for studies, unless the applicant deems necessary to request the Traditional Licensing Process.

- 3. The Commission may waive the requirements of Exhibit 2, Part 2, upon a showing by the applicant that the field studies, tests, and other activities to be conducted under the permit would not adversely affect cultural resources or endangered species and would cause only minor alterations or disturbances of lands and waters, and that any land altered or disturbed would be adequately restored.**

It is not anticipated that preliminary studies will adversely impact cultural resources, endangered species or federally owned lands. Therefore the applicant requests waiver of requirements in 18 CFR §4.81 (c) (2) [Exhibit 2, Part 2 of this document] pursuant to 18 CFR §385.207.

EXHIBIT 3

1. **The estimated costs of carrying out or preparing the studies, investigations, tests, surveys, maps, plans or specifications identified under Exhibit 2 of this document.**

The cost to complete the proposed studies during the requested three year period is estimated at \$8,000,000 to \$10,000,000.

2. **The expected sources and extent of financing available to the applicant to carry out or prepare the studies, investigations, tests, surveys, maps, plans, or specifications identified Exhibit 2 of this document.**

These costs will be funded by private investors and the applicant.

3. **A description of the proposed market for the power generated at the project, including:**

- i. **The identity of the proposed purchaser(s) of the power, and any information that is available concerning the revenues to be derived from the sale of the power.**

Power will be marketed to local utilities and providers in the SPP service area.

- ii. **The size of the applicant's power system, system peak demand and annual energy requirements, and the number of customers served by the applicant.**

The applicant has no power system.



**APPLICATION VERIFICATION LETTER**

This (application, etc.) is executed in the State of Texas, County of Dallas by: **Fred Brown, PE** (Name) of **Wild Flower Water LLC**, 4265 Kellway Circle, Addison, TX 75001 (Address), being duly sworn, depose(s) and say(s) that the contents of this (application, etc.) are true to the best of (his or her) knowledge or belief.

The undersigned applicant(s) has (have) signed the (application, etc.) this \_\_\_\_\_ day of March, 2011.  
Wild Flower Water LLP (Applicant(s)) By: Fred Brown, PE, Subscribed and sworn to before me, a [Notary Public, or title of other official authorized by the state to notarize documents, as appropriate] of the State of Texas this \_\_\_\_\_ day of March, 2011

\_\_\_\_\_ Fred Brown, PE, Wild Flower Water LLP

\_\_\_\_\_ Date

\_\_\_\_\_ Notary Public

\_\_\_\_\_ Date



