

Electronically filed October 13, 2021

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

**Subject: Crooked Creek Pumped Storage Project
Application for Preliminary Permit**

Dear Ms. Bose:

PacifiCorp is pleased to submit to the Federal Energy Regulatory Commission (Commission) the attached application for a preliminary permit for the proposed Crooked Creek Pumped Storage Project (Project). PacifiCorp is submitting this application to secure and maintain priority of application for a license for the Project while undertaking the studies necessary to determine its feasibility.

This letter and its enclosures have been filed electronically. The security classification of each component in this packet is shown in the enclosure table. Should the Commission have any questions concerning these documents, please contact Tim Hemstreet by phone at (503) 813-6170, or by email at tim.hemstreet@pacificorp.com.

Sincerely,

Mark A. Sturtevant
Vice President, Renewable Resources

MAS:TH:BB

Encl:	Letter – Public
	Application for Preliminary Permit – Public
eFile:	Via eLibrary at www.ferc.gov

CROOKED CREEK PUMPED STORAGE HYDROPOWER PROJECT

APPLICATION FOR PRELIMINARY PERMIT

INITIAL STATEMENT, GENERAL CONTENT, AND EXHIBITS 1 THROUGH 3



October 2021

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ACRONYMS AND ABBREVIATIONS

ac-ft—acre feet

CFR—Code of Federal Regulations

cfs—cubic feet per second

FERC—Federal Energy Regulatory Commission, or Commission

FPA—Federal Power Act

ft—feet

GWh—gigawatt-hour

kV—kilovolt

msl—mean sea level

MW—megawatt

MWh—megawatt-hour

PLSS—Public Land Survey System

USFS—U.S. Department of Agriculture, Forest Service

INITIAL STATEMENT¹

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR PRELIMINARY PERMIT

(1) PacifiCorp (Applicant), a regulated electric utility privately held by Berkshire Hathaway Energy Company, applies to the Federal Energy Regulatory Commission (Commission or FERC) for a preliminary permit for the proposed Crooked Creek Pumped Storage Project (Project), as described in the attached exhibits. This application is made in order that PacifiCorp 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 Project is:

State or territory:	Oregon
County:	Lake County
Township or nearby town:	Valley Falls
Stream or other body of water:	Off-channel, near Crooked Creek, Lake Abert, and Chewaucan River

(3) The exact name and business address of the Applicant are:

PacifiCorp
825 NE Multnomah, Suite 2000
Portland, OR 97232

The exact name and business address of each person authorized to act as agent for the Applicant in this application are:

Tim Hemstreet, Managing Director, Renewable Energy Development
PacifiCorp
825 NE Multnomah, Suite 1800
Portland, OR 97232
Email: Tim.Hemstreet@pacificorp.com
Phone: (503) 813-6170

Dustin Till, Assistant General Counsel
PacifiCorp
825 NE Multnomah, Suite 2000
Portland, OR 97232
Email: Dustin.Till@pacificorp.com
Phone: (503) 813-6589

¹ 18 Code of Federal Regulations (CFR) §4.81(a)

(4) The Applicant, PacifiCorp, is a domestic corporation and is not claiming municipal preference under section 7(a) of the FPA. PacifiCorp, a corporation located in Portland, Oregon, is organized under the laws of the State of Oregon and, as such, is qualified under § 4(e) of the FPA to hold hydroelectric licenses issued under Part I of the FPA.

(5) The proposed term of the requested permit is 48 months.

(6) The proposed Project would be about 18 miles North of Lakeview, Oregon. No dams, spillways, waterways, powerhouses, tailraces, or other structures currently exist at the proposed site of the Crooked Creek Pumped Storage Project. PacifiCorp is researching water rights in the area for use in construction, filling and maintaining water for the Project.

GENERAL CONTENT²

(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:

PacifiCorp
825 NE Multnomah, Suite 2000
Portland, OR 97232

(2) Identify (providing names and mailing addresses):

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

Lake County
County Clerk
513 Center St.
Lakeview, OR 97630

(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;

The Project would not be located within the boundaries of any city, town, or local political subdivision.

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

The Project would not be located within 15 miles of any city or town that has a population of 5,000 or more people

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

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

or

(B) That owns, operates, maintains, or uses any project facilities or any Federal facilities that would be used by the project;

There are no irrigation districts, drainage districts, or similar special purpose political subdivisions in which any part of the Project would be located.

(iv) 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:

² 18 CFR §4.32(a)

There are no other political subdivisions in the general area of the Project that there is reason to believe would be interested in, or affected by, the application.

(v) All Indian tribes that may be affected by the project.

Burns Paiute Tribe
100 Pasigo St.
Burns, OR 97720

Confederated Tribes of Warm Springs Reservation of Oregon
1233 Veterans Street
PO Box C
Warm Springs, OR 97761

Fort Bidwell Indian Reservation
130 Me-Thee-UH Road
Fort Bidwell, CA 96112
530-279-6252

Cedarville Rancheria
300 W 1st Street
Alturas, CA

Klamath Tribes
PO Box 436
501 Chiloquin Blvd.
Chiloquin, OR 97624

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

PacifiCorp

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)

Crooked Creek Pumped
Storage Project

Project No.

SUBSCRIPTION AND VERIFICATION

In witness whereof Applicant PacifiCorp has caused its name to be hereunto executed by Tim Hemstreet, PacifiCorp, Managing Director, Renewable Energy Development, this 8th day of October 2021.

State of Oregon
County of Multnomah

PACIFICORP

by: Tim Hemstreet, Managing Director, Renewable Energy Development
PacifiCorp
825 NE Multnomah, Suite 1800
Portland, OR 97232

being duly sworn, deposes and says that the contents of this Application for Preliminary Permit for the Crooked Creek Pumped Storage Project are true to the best of his knowledge or belief. The undersigned Applicant has signed the Application this 8th day of October 2021.

Tim Hemstreet

Tim Hemstreet, PacifiCorp, Managing Director, Renewable Energy Development

Subscribed and sworn to before me, a Notary Public of the State of Oregon this 8th day of October 2021.

Kelly A. Wiggins
Kelly A. Wiggins, Notary Public

My Commission Expires 10/26/2021

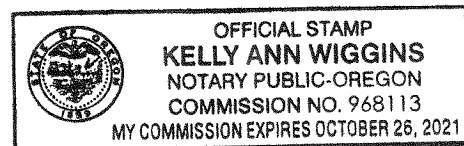


EXHIBIT 1 PROJECT DESCRIPTION

1.1 GENERAL PROJECT DESCRIPTION

The proposed Crooked Creek Pumped Storage Project (“Project”) is a closed-loop, pumped-storage hydroelectric generating facility. It is PacifiCorp’s intent with this application to evaluate the Project to meet current renewable energy system needs for energy storage.

The proposed Project would include:

- An upper reservoir with enough storage for operating 8 hours of electrical generation;
- A lower reservoir;
- A single powerhouse;
- Pumping/generating units with a maximum capacity of approximately 500 megawatts (MW);
- A penstock connecting the upper and lower reservoirs;
- A new transmission line connecting the powerhouse switchyard with the regional transmission grid; and
- A new underground pipeline for water for construction, initial fill, and maintenance fill of the Project.

1.2 RESERVOIRS

The proposed Project would require the construction of two new reservoirs: one upper and one lower.

1.2.1 Lower Reservoir

PacifiCorp would construct a 50.0-acre lower reservoir approximately 3 miles south of Valley Falls, Oregon and east of U.S. Highway 395 at an approximate elevation of 4,600 feet (ft) mean sea level (msl) with an active storage volume (based on 8 hours of operation) of approximately 2,052 acre-feet (ac-ft) at maximum normal operating level.

1.2.2 Proposed Upper Reservoir

PacifiCorp would construct a 52-acre upper reservoir approximately 5 miles south of Valley Falls, Oregon, and east of U.S. Highway 395 at an approximate elevation of 6,600 ft msl with an active storage volume (based on 8 hours of operation) of 2,344 ac-ft. The Project would have a gross head of approximately 1,990 ft.

1.3 EXISTING OR PROPOSED TRANSMISSION LINES

The Project would require the construction of an approximately 19.7-mile, 500-kilovolt (kV) transmission line from the powerhouse to PacifiCorp's existing Mile Hi substation in Lakeview, Oregon (Exhibit 3). This substation is currently maintained to FERC and North American Electric Reliability Corporation standards for system reliability. Any required upgrades beyond the Mile Hi substation would be determined in a System Impact study to be performed by the transmission provider.

1.4 GENERATING EQUIPMENT AND CAPACITIES

1.4.1 Generators

The turbine and generator configurations have not been finalized at this time but could potentially be three 167-MW Francis pump-turbines units or a number of units that would be most efficient for the project.

1.4.2 Penstock and Tunnel

Approximately 3.3 miles of combined tunnel and penstock would be constructed to convey water between the upper reservoir and the powerhouse at the lower reservoir. The tunnel and penstock lengths would be approximately 2 and 1.3 miles, respectively. Depending on the final configuration, the penstock could trifurcate and deliver water to each of the three turbine units or maintain the single pipe layout to a single unit.

1.4.3 Powerhouse/Pump Station

The proposed powerhouse would be sited along the eastern shore of the lower reservoir. A powerhouse with a generating capacity of approximately 500 MW would be constructed into the shoreline of the lower reservoir. The powerhouse would be equipped with up to three turbines for generation and three pumps to return water from the lower reservoir back to the upper reservoir via the penstock.

1.5 RESERVOIR SPILLWAYS

The Project would be a closed-loop, off-channel system that would exchange water between the upper and lower reservoirs. To eliminate the risk associated with embankment overtopping, emergency freeboard would be maintained in both reservoirs, and the two reservoirs would be similarly sized such that water from one reservoir cannot inundate and overtop the other reservoir. In addition, redundant controls would be used. The off-channel reservoirs would not capture any precipitation from outside the impoundments, and freeboard would be reserved to store precipitation within the reservoir on an annual basis until it is offset by evaporation.

1.6 AVERAGE ANNUAL ENERGY PRODUCTION

The primary operational mode of this Project would be to support and balance PacifiCorp's system energy needs while allowing for the incorporation of additional variable renewable generation resources such as wind and solar. The Project would pump water from the lower

reservoir during times when surplus energy from other resources is available and generate electricity during periods of high demand. Depending on customer energy demands and available energy production on PacifiCorp's system, the Project could pump and generate multiple times in a 24-hour period.

The total estimated annual energy production would be 1,460 gigawatt-hours (GWh). The installed capacity of the Project would be 500 MW. The available hydraulic head as proposed would be 2,120 feet and the daily output (based on a daily fill and run cycle) would be 4,000 megawatt-hours (MWh). The Project would have an anticipated 80% efficiency rating, so daily pumping energy (based on a daily fill and run cycle) would be 5,000 MWh. The upper reservoir would be sized to provide enough active storage for an 8-hour water supply to the powerhouse.

1.7 LANDS OF THE UNITED STATES

The proposed Project is located in Lake County, Oregon. The locations identified by Public Land Survey System (PLSS) township, range, and section of the lands of the United States within the proposed Project boundary are presented in Table 1, depicted in Exhibit 3, and identified in Form FERC-587 enclosed with this application.

Table 1. PLSS location of lands of the United States within the proposed Project boundary

PLSS Township and Range	PLSS Section	Subdivision of Section	Federal Acres within Proposed Project Boundary	Agency Jurisdiction
36S 21E	13	SW	79.9	USFS
36S 21E	15	SE	0.2	USFS
36S 21E	21	SE, SW	121.1	USFS
36S 21E	22	NE, SE, SW	265.1	USFS
36S 21E	23	NE, NW, SW	261.7	USFS
36S 21E	24	NW	39.9	USFS
36S 21E	13	SW	79.9	USFS
36S 21E	15	SE	0.2	USFS
39S 20E	4	NE	5.3	USFS
Total			773.3	

Notes: BLM = Bureau of Land Management; USFS = U.S. Department of Agriculture, Forest Service

No areas within or in the vicinity of the Project boundary labeled on Exhibit 3 are included or have been designated for study for inclusion in the National Wild and Scenic Rivers System.

No areas within the Project boundary labeled on Exhibit 3, have been: (1) designated as wilderness area; (2) recommended for designation as wilderness area; or (3) designated as wilderness study area.

1.8 REGIONAL WATER SOURCES

The proposed Project is a closed-loop, off-channel system that would circulate the same water for pumping and generation. Water would be required to initially construct and fill the reservoirs, and long-term, minor amounts of make-up water would be required to account for losses due to evaporation and impoundment leakage. Water is anticipated to be sourced by acquiring water rights in the Chewaucan River, with a point of diversion above the mouth of Lake Abert. This water would be conveyed to the lower reservoir through an 8.7-mile underground pipeline. The routing of this pipeline would cross Crooked Creek just west of the lower reservoir site. At the point of crossing Crooked Creek additional supplemental water may be pumped from Crooked Creek into the pipeline depending on need and necessary water rights. These two water sources would be used in combination to meet the Project needs. During the study phase of the Project, the Applicant will create a water balance model for the Project and review water sources to determine if other supplemental sources will be required and if groundwater sources are available to make up for reservoir evaporation and leakage.

Water availability information on Oregon Water Resources Department's website indicates water is available, while meeting instream flow requirements, during most months of the year in the reach of the Chewaucan River from Paisley (below Small Creek) to the mouth of the river at Lake Abert. Water availability information also indicates water is available in Crooked Creek most months of the year. Information from various sources indicate the area may be experiencing reduced water supplies, potentially from dry water years, or possibly from unaccounted for appropriation. PacifiCorp will explore ways to reduce the impacts of its water diversions for the Project including evaluating the timing of filling the reservoirs and potential opportunities to offset Project diversions through mitigation or other means.

1.9 PUBLIC INTEREST

As a rate-regulated electric utility, PacifiCorp serves its customers under a cost-of-service model through which energy solutions are delivered for customers at prices that are below national and regional averages. PacifiCorp is the largest grid operator in the western United States and serves the energy needs of 2 million customers across six western states through owned and contracted energy resources. PacifiCorp shares a vision with its customers and communities in which clean energy from across the West powers jobs and innovation. Over the past several years, PacifiCorp has outlined an ambitious path to substantially increase its renewable energy capacity, evolve its existing portfolio, and connect supply with demand through an expanded, modernized transmission system.

The proposed Project would support the public interest by advancing PacifiCorp's capability to serve customers with clean, affordable and reliable energy service by providing renewable energy storage and carbon-free generation of electricity. Storage resources such as the proposed Project will be increasingly necessary to balance the increasing percentage of wind and solar resources on PacifiCorp's system with dynamic customer energy needs.

In addition to the ability of the Project to support progress towards a clean energy future, the proposed Project would create job opportunities during construction and support long-term operations and maintenance positions during the anticipated 50-year life of the facility. The investments in the project would also support the local community through an expanded tax base and sales and use taxes resulting from construction.

EXHIBIT 2 DESCRIPTION OF STUDIES

2.1 STUDY PROCESS

Prior to submittal of this preliminary permit application, PacifiCorp reviewed existing data sources and performed conceptual engineering analyses. PacifiCorp proposes to conduct the studies listed below to further evaluate the technical, economic, financial, and environmental feasibility of the proposed Project in support of an application for license.

These studies and analyses will provide critical inputs to the decision process to proceed with a Notice of Intent and a Preliminary Application Document.

The implementation of studies will be conducted in accordance with applicable federal and state permitting requirements. Studies will be conducted so as not to affect cultural resources and endangered species, and with only minor alterations to lands and waters. Any land altered or disturbed will be adequately restored. Any necessary permits or landowner permissions needed will be obtained prior to initiating the studies described here.

PacifiCorp's professional staff along with qualified third-party consultants will complete the preliminary studies described below. PacifiCorp staff and consultant support may include civil, mechanical, electrical, and geotechnical engineers; cultural resource and recreation professionals; biologists; visual resource professionals; hydrologists; and water quality professionals.

2.2 PRELIMINARY STUDIES TO BE COMPLETED

2.2.1 Cultural Resources

A search of the State Historic Preservation Office database will be performed to identify previous cultural resource investigations and recorded sites within the Project study area. Information pertinent to the Project will be summarized, and a detailed review will be conducted to determine additional studies that may be appropriate. The cultural resource review will be coordinated with the State Historic Preservation Office, affected Indian tribes, and appropriate Federal agencies. Additional information on cultural resources in the Project study area may be provided by these entities. The results of the review will be used to prepare the discussion of resources and potential impacts, along with study plans that could be proposed in a Preliminary Application Document. If implementation of preliminary studies identified below results in ground disturbance, the ground-disturbing activity will be reviewed by a professional archaeologist for its potential to affect cultural resources. Field investigation and/or protection measures may be required before the ground-disturbing activity can proceed.

2.2.2 Energy Needs and Economic Analysis

An energy needs analysis of the proposed Project's ability to support variable renewable resources and contribute to balancing energy supply and demands will be performed. The analysis will include estimates of power production and renewable power integration. Long-term Project economics will be analyzed that will include cost data from other studies proposed in this

document. In addition, the Project may be evaluated in the Applicant's Integrated Resource Plan, which would evaluate the Project's ability to contribute to a least-cost, least-risk resource portfolio.

2.2.3 Engineering

Preliminary engineering designs will be prepared for the powerhouse/pump station, upper and lower intake/outlet structures, upper and lower reservoirs, transmission lines, dam and dikes, and penstock tunnels to determine the feasibility, estimated costs, and construction timelines.

2.2.4 Fisheries Studies

A literature review and annotated bibliography of existing fisheries studies and data will be prepared. This information will be used to prepare the discussion of resources and potential impacts, along with study plans that could be proposed in a Preliminary Application Document.

2.2.5 Sensitive Plants

Plant communities will be delineated within areas potentially affected by Project development. In these same areas, surveys will be conducted for sensitive plants listed in State and Federal databases. This information will be used to prepare the discussion of resources and potential impacts, along with study plans that could be proposed in a Preliminary Application Document.

2.2.6 Terrestrial and Avian Species

Wildlife habitat will be delineated within areas potentially affected by Project development. State and Federal databases will be queried to develop a list of potential threatened, endangered, or sensitive species potentially occurring in the Project area. This information will be used to prepare the discussion of resources and potential impacts, along with study plans that could be proposed in a Preliminary Application Document.

2.2.7 Water Quality

A literature review and annotated bibliography of water quality studies and data sources for the site will be prepared. This information will be used to prepare the discussion of resources and potential impacts, along with study plans or modeling that could be proposed in a Preliminary Application Document.

2.2.8 Geotechnical

A geotechnical evaluation will be completed to assess existing geological, seismic, aerial, and soil data. An analysis will be completed of the suitability of area soil and rock for use as construction material and as foundations. Additional borings, soundings, soil sampling, and laboratory testing of materials may be conducted as needed to inform preliminary engineering studies.

2.2.9 Land Survey

A topographic and boundary survey of the proposed Project area will be completed. This information will be used to prepare the preliminary engineering plans and update the proposed Project boundary and land ownership information.

2.2.10 Recreation

An assessment of recreation uses in the Project area and the potential Project effects on recreation will be prepared. This information will be used in the discussion of resources and potential impacts, along with study plans that could be proposed in a Preliminary Application Document.

2.2.11 Transportation

An analysis of the area roadways and their capacity to support construction and operation of the Project will be completed.

2.2.12 Transmission Interconnection Study

Consistent with the procedures outlined in Applicant's Open Access Transmission Tariff filed with FERC, transmission interconnection studies will be completed to determine the feasibility of interconnecting the proposed Project and any network upgrades that may be necessary, and their associated cost. The interconnection studies will determine the location, number of circuits, voltage, and configuration of the Project's interconnection with the regional utility network.

2.2.13 Visual Resources

A baseline evaluation of existing visual resources at the Project site and from key observation points will be prepared. Visual simulations will be prepared from key observation points that incorporate Project structures including the powerhouse/pump station, transmission lines, dam, and upper reservoir. The visual simulations and the baseline will be used to identify preliminary issues or accommodations needed in the preliminary engineering work. This information will be used to prepare the discussion of resources and preliminary issues in a Preliminary Application Document.

2.3 ACCESS TO CONDUCT STUDIES

No new road construction is proposed for the purpose of conducting the studies outlined in this document. If geotechnical and engineering studies proposed in this document require additional temporary access routes, those routes and their restoration will be coordinated with federal and state land managers in addition to any local landowners.

2.4 NEW DAM CONSTRUCTION

PacifiCorp proposes construction of new upper and lower reservoirs. As geotechnical and engineering work proceeds and the need for additional field investigations is identified, the Applicant will submit investigation plans to FERC and the landowner(s).

Information about field investigation will be submitted following the guidelines in 18 CFR §4.81 that require the following:

- (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; and
- (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.

2.5 SCHEDULE FOR STUDIES

The schedule for completion of the studies outlined in this document is presented in the table below. It is the intent of PacifiCorp that these studies be completed along this timeline. This schedule assumes that a preliminary permit will be issued to PacifiCorp by January 1, 2022.

Permit Issued	January 2022
Stakeholder Engagement and Perform Studies	January 2022–June 2023
Complete Initial Environmental and Economic Analysis	October 2024
Initiate the preparation of the Notice of Intent and Preliminary Application Document	October 2025
File Notice of Intent and Preliminary Application Document	January 2026

2.6 STUDY COSTS

The estimated costs of carrying out the scope of work described in Exhibit 2 is almost \$3.15 million, allocated as follows.

Study	Estimated Costs	Target Completion Date
Energy Needs and Economic Analysis	\$100K	July 2023
Geotechnical	\$500K	September 2024
Engineering	\$2M	June 2024
Land Survey	\$100K	July 2024
Cultural	\$50K	October 2024
Transmission Interconnection	\$200K	November 2024

Study	Estimated Costs	Target Completion Date
Fisheries	\$75K	July 2025
Water Quality	\$75K	July 2025
Recreation	\$50K	July 2025

2.7 FINANCIAL SOURCES

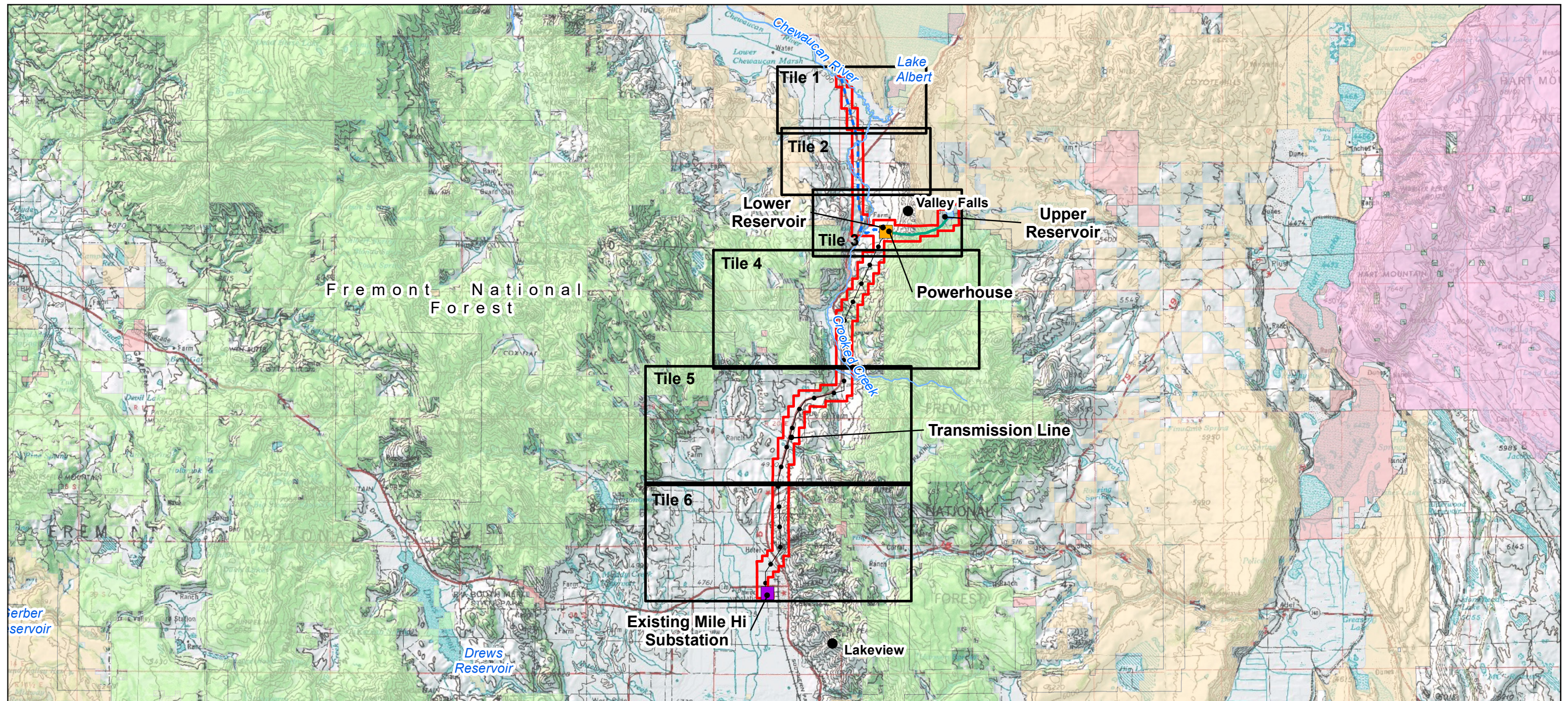
PacifiCorp will self-finance the studies, investigations, and consultation activities identified in this application.

Revenues are generated by PacifiCorp through sales of electricity to wholesale and retail customers. Rates for retail energy sales are set by state public utility commissions in accordance with rate structures and public utility policies so that, in general, costs of service are covered by operating revenue. Operating revenue and energy costs are the key drivers of PacifiCorp's results of operations as they encompass retail and wholesale electricity revenue and the direct costs associated with providing electricity to customers. PacifiCorp's net income for the year ended December 31, 2020, was \$741 million on operating revenues of \$5.3 billion. PacifiCorp's operating revenue increased \$273 million for 2020 compared to 2019 due to higher retail revenue of \$250 million and higher wholesale and other revenue of \$23 million. For the same period, net income decreased by \$32 million for 2020 compared to 2019, primarily due to increased operation and maintenance expenses.

PacifiCorp's revenues are sufficient to meet the costs identified in this application. Additional financial data are presented in Berkshire Hathaway Energy Company's December 31, 2020, annual Form 10-K report available at: https://www.brkenenergy.com/assets/upload/financial-filing/20201231_BHE%20Form%2010-K.pdf.

EXHIBIT 3 PROJECT MAPS

Exhibit 3 must include a map or series of maps, to be prepared on United States Geological Survey topographic quadrangle sheets or similar topographic maps of a State agency, if available. *The maps need not conform to the precise specifications of §4.39(a) and (b).*



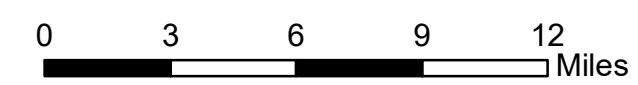
Legend

- Project Boundary
- Project Features
- Powerhouse
- Substation
- Transmission Line
- Tunnel
- Water Pipeline (underground)

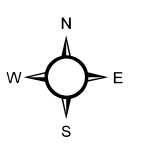
Land Ownership

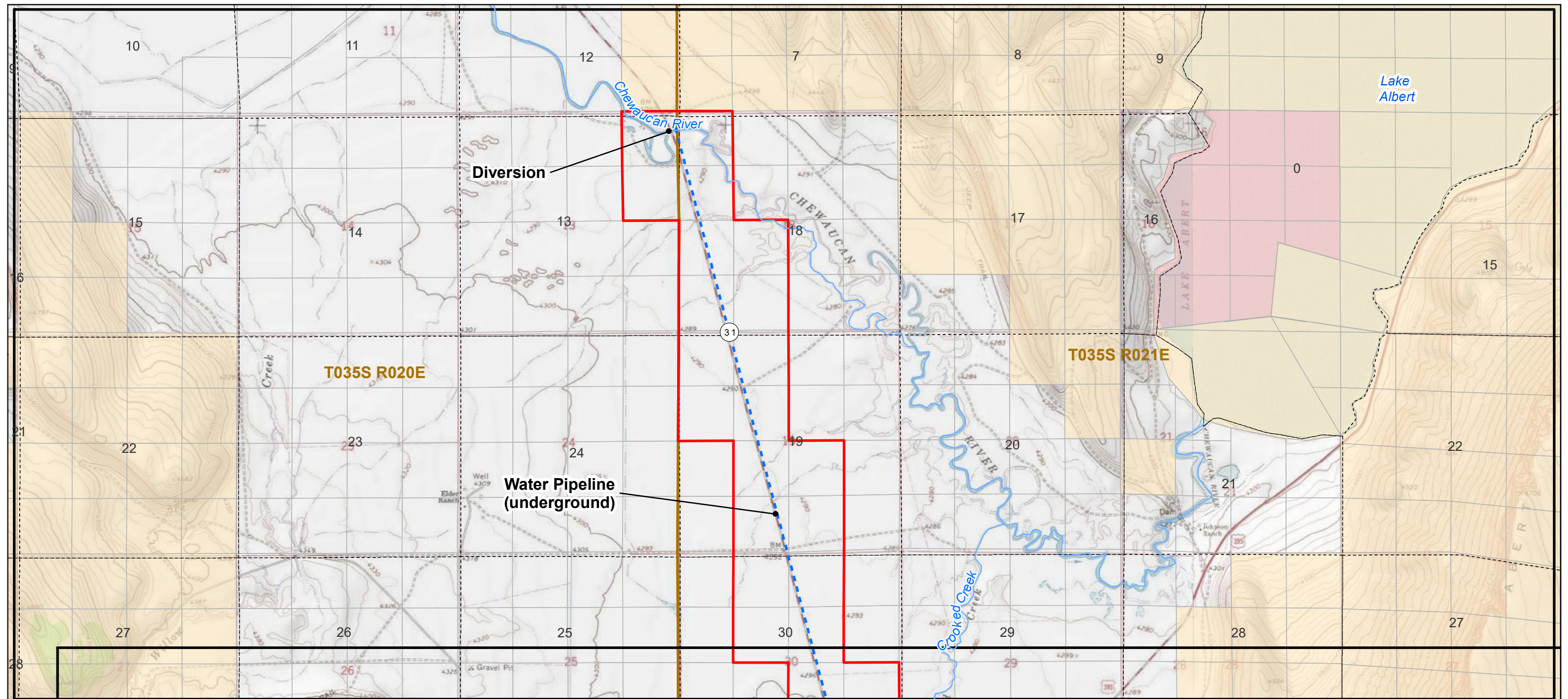
- BLM
- FWS
- USBR
- USFS
- State
- Private
- PacifiCorp

Crooked Creek Pumped Storage Project Overview



1:290,000





Legend

Project Boundary

Project Features

Project Features

Powerhouse

Substation

●—● Transmission Line

— Tunnel

- - - Water Pipeline (underground)

PLSS Townships

PLSS First Division

PLSS Second Division

Land Ownership

BLM

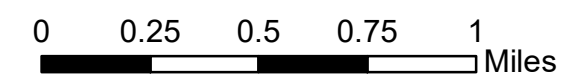
State

Private

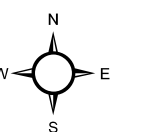
PacifiCorp

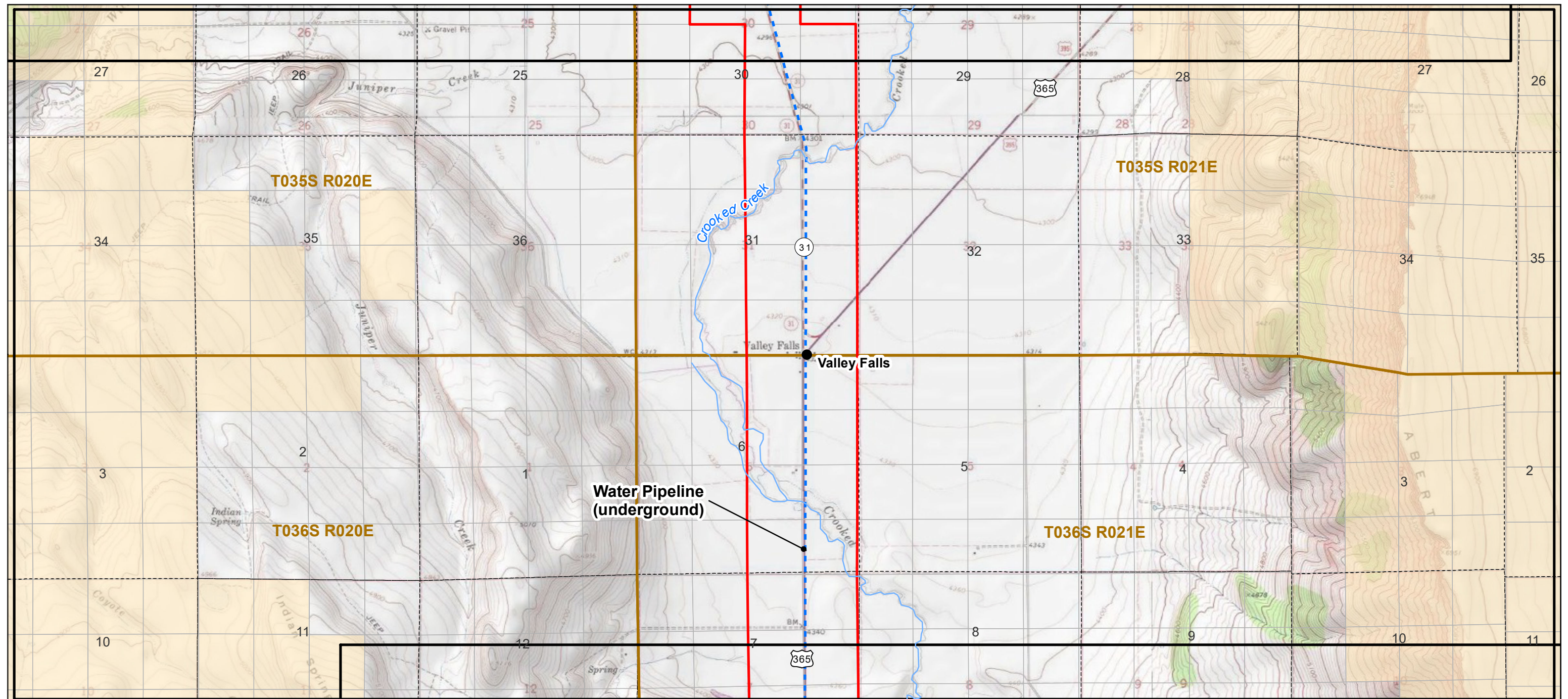
Crooked Creek Pumped Storage

Tile 1



1:28,000





Legend

Project Boundary

Project Features

Project Features

Powerhouse

Substation

Transmission Line

Tunnel

Water Pipeline (underground)

PLSS Townships

PLSS First Division

PLSS Second Division

Land Ownership

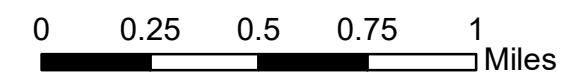
BLM

Private

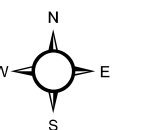
PacifiCorp

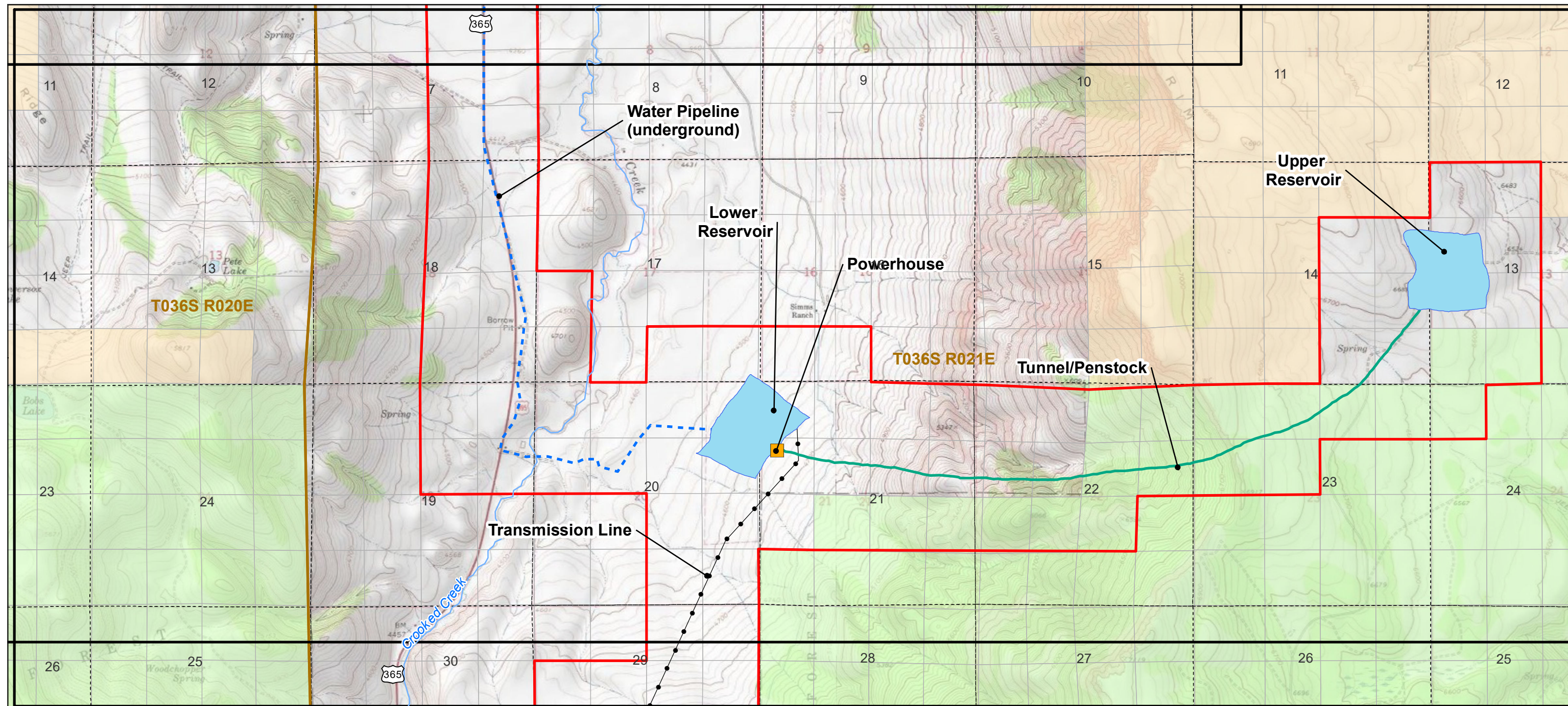
Crooked Creek Pumped Storage

Tile 2



1:28,000





Legend

Project Boundary

Project Features

Project Features

Powerhouse

Substation

●●●●● Transmission Line

— Tunnel

- - - Water Pipeline (underground)

PLSS Townships

PLSS First Division

PLSS Second Division

Land Ownership

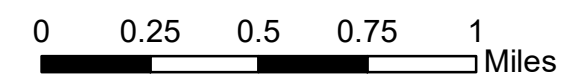
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USFS

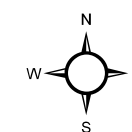
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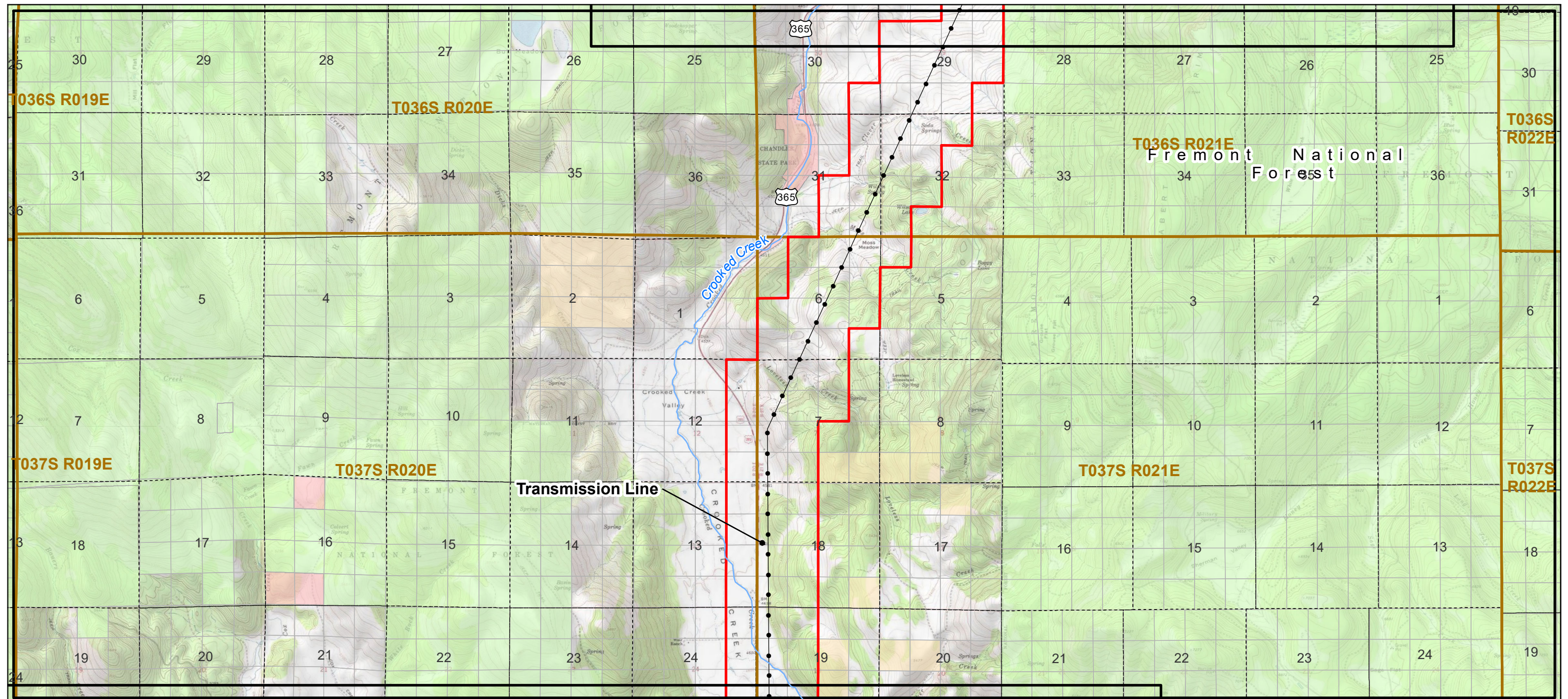
PacifiCorp

Crooked Creek Pumped Storage Tile 3



1:28,000





Legend

Project Boundary

Project Features

Project Features

Powerhouse

Substation

Transmission Line

Tunnel

Water Pipeline (underground)

PLSS Townships

PLSS First Division

PLSS Second Division

Land Ownership

BLM

USFS

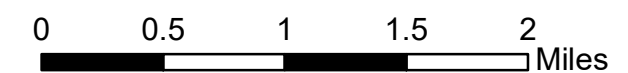
State

Private

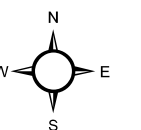
PacifiCorp

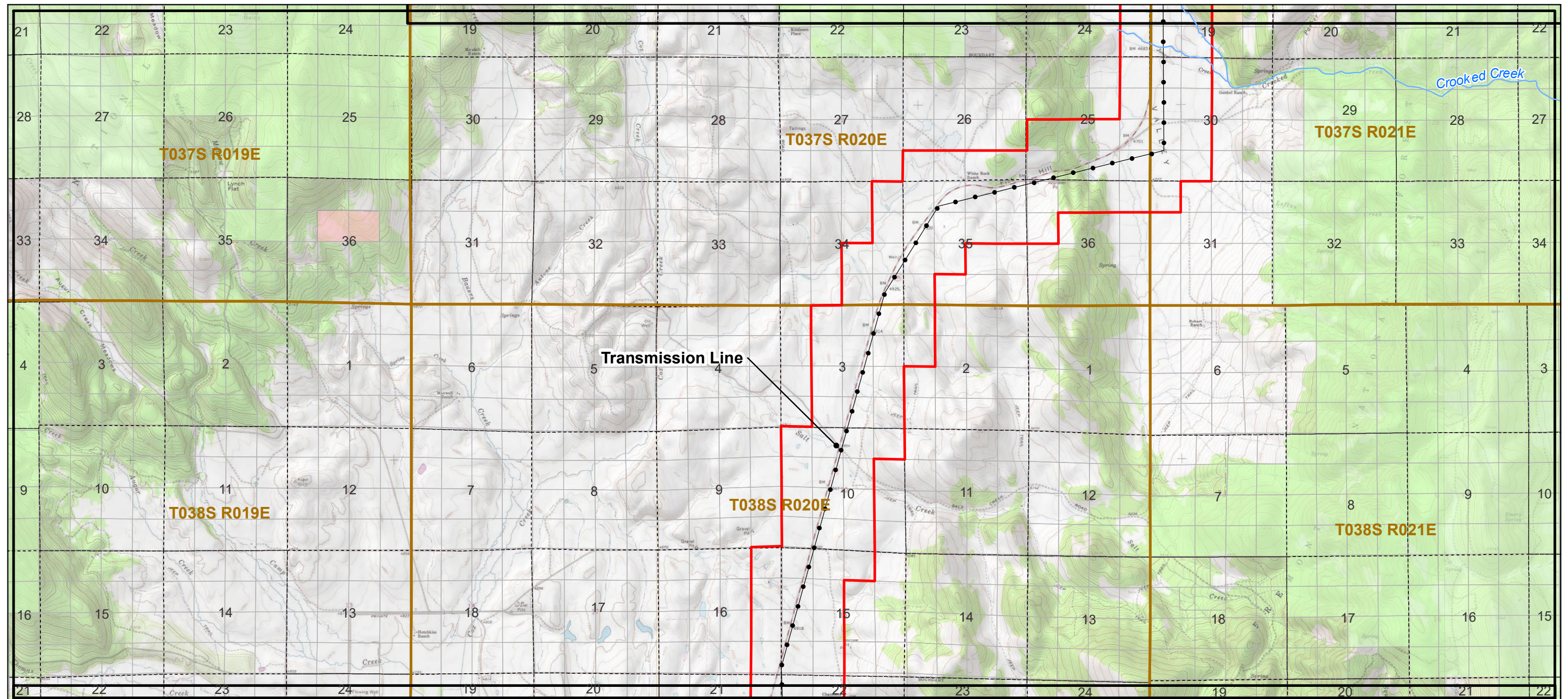
Crooked Creek Pumped Storage

Tile 4



1:50,000





Legend

Project Boundary

Project Features

Project Features

Powerhouse

Substation

••• Transmission Line

Tunnel

Water Pipeline (underground)

PLSS Townships

PLSS First Division

PLSS Second Division

Land Ownership

BLM

USFS

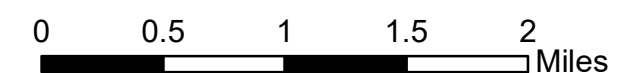
State

Private

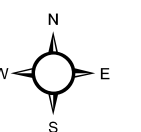
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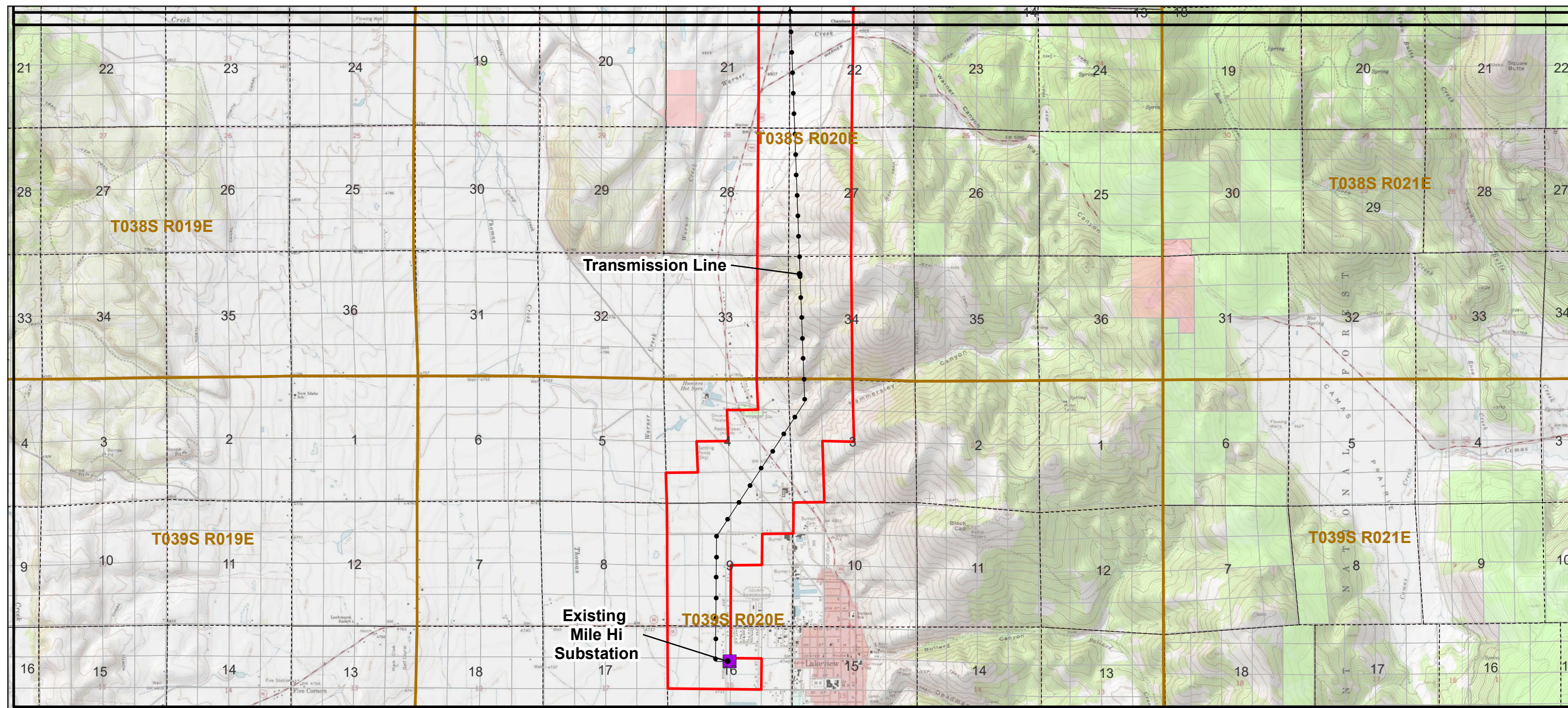
Crooked Creek Pumped Storage

Tile 5



1:50,000





Legend

Project Boundary

Project Features

Project Features

Powerhouse

Substation

●●●●● Transmission Line

— Tunnel

--- Water Pipeline (underground)

PLSS Townships

PLSS First Division

PLSS Second Division

Land Ownership

USFS

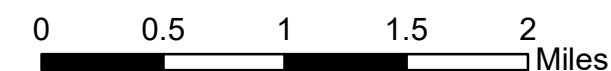
State

Private

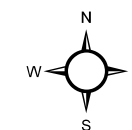
PacifiCorp

Crooked Creek Pumped Storage

Tile 6



1:50,000



FERC Form 587

LAND DESCRIPTION

Public Land States (Rectangle Survey System Lands)

1. STATE OR 2. FERC PROJECT NO. N/A

3. TOWNSHIP 35S RANGE 20E MERIDIAN Willamette

4. Check one:

☐ License
☒ Preliminary Permit

Check one:

☒ Pending
☐ Issued: _____

If preliminary permit is issued, give expiration date: not applicable

5. EXHIBIT SHEET NUMBER OR LETTERS

Section 6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13 Private Exhibit 3
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

6. Contact's name Tim Hemstreet

Telephone No. 503-813-6170

Date submitted October 13, 2021

LAND DESCRIPTION

Public Land States (Rectangle Survey System Lands)

1. STATE OR 2. FERC PROJECT NO. N/A

3. TOWNSHIP 35S RANGE 21E MERIDIAN Willamette

4. Check one: License Check one: x Pending
x Preliminary Permit Issued: _____

If preliminary permit is issued, give expiration date: not applicable

5. EXHIBIT SHEET NUMBER OR LETTERS

Section 6	5	4	3	2	1
7	8	9	10	11	12
18 Private Exhibit 3	17	16	15	14	13
19 Private Exhibit 3	20	21	22	23	24
30 Private Exhibit 3	29	28	27	26	25
31 Private Exhibit 3	32	33	34	35	36

6. Contact's name Tim Hemstreet

Telephone No. 503-813-6170

Date submitted October 13, 2021

LAND DESCRIPTION

Public Land States (Rectangle Survey System Lands)

1. STATE OR 2. FERC PROJECT NO. N/A
3. TOWNSHIP 36S RANGE 21E MERIDIAN Willamette

4. Check one: License Check one: x Pending
x Preliminary Permit Issued: _____

If preliminary permit is issued, give expiration date: not applicable

5. EXHIBIT SHEET NUMBER OR LETTERS

Section 6	5	4	3	2	1
Private Exhibit 3					
7	8	9	10	11	12
Private Exhibit 3					
18	17	16	15	14	13
Private Exhibit 3	Private Exhibit 3	Private Exhibit 3		Private Exhibit 3	USFS/Private Exhibit 3
19	20	21	22	23	24
Private Exhibit 3	Private Exhibit 3	USFS/Private Exhibit 3	USFS/Private Exhibit 3	USFS Exhibit 3	USFS Exhibit 3
30	29	28	27	26	25
Private Exhibit 3	Private Exhibit 3				
31	32	33	34	35	36
Private Exhibit 3	Private Exhibit 3				

6. Contact's name Tim Hemstreet
Telephone No. 503-813-6170
Date submitted October 13, 2021

LAND DESCRIPTION

Public Land States (Rectangle Survey System Lands)

1. STATE OR 2. FERC PROJECT NO. N/A

3. TOWNSHIP 37S RANGE 20E MERIDIAN Willamette

4. Check one:
☐ License
☒ Preliminary Permit

Check one:
☒ Pending
☐ Issued: _____

If preliminary permit is issued, give expiration date: not applicable

5. EXHIBIT SHEET NUMBER OR LETTERS

Section 6	5	4	3	2	1
7	8	9	10	11	12 Private Exhibit 3
18	17	16	15	14	13 Private Exhibit 3
19	20	21	22	23	24 Private Exhibit 3
30	29	28	27	26 Private Exhibit 3	25 Private Exhibit 3
31	32	33	34 Private Exhibit 3	35 Private Exhibit 3	36 Private Exhibit 3

6. Contact's name Tim Hemstreet

Telephone No. 503-813-6170

Date submitted October 13, 2021

LAND DESCRIPTION

Public Land States (Rectangle Survey System Lands)

1. STATE OR 2. FERC PROJECT NO. N/A
3. TOWNSHIP 37S RANGE 21E MERIDIAN Willamette

4. Check one: License Check one: x Pending
x Preliminary Permit Issued:

If preliminary permit is issued, give expiration date: not applicable

5. EXHIBIT SHEET NUMBER OR LETTERS

Section 6	5	4	3	2	1
Private Exhibit 3	Private Exhibit 3				
7	8	9	10	11	12
Private Exhibit 3					
18	17	16	15	14	13
Private Exhibit 3					
19	20	21	22	23	24
Private Exhibit 3					
30	29	28	27	26	25
Private Exhibit 3					
31	32	33	34	35	36
Private Exhibit 3					

6. Contact's name Tim Hemstreet
Telephone No. 503-813-6170
Date submitted October 13, 2021

LAND DESCRIPTION

Public Land States (Rectangle Survey System Lands)

1. STATE OR 2. FERC PROJECT NO. N/A
3. TOWNSHIP 38S RANGE 20E MERIDIAN Willamette

4. Check one: License Check one: x Pending
x Preliminary Permit Issued: _____

If preliminary permit is issued, give expiration date: not applicable

5. EXHIBIT SHEET NUMBER OR LETTERS

Section 6	5	4	3	2	1
			Private Exhibit 3	Private Exhibit 3	
7	8	9	10	11	12
			Private Exhibit 3		
18	17	16	15	14	13
		Private Exhibit 3	Private Exhibit 3		
19	20	21	22	23	24
		Private Exhibit 3	Private Exhibit 3		
30	29	28	27	26	25
		Private Exhibit 3	Private Exhibit 3		
31	32	33	34	35	36
		Private Exhibit 3	Private Exhibit 3		

6. Contact's name Tim Hemstreet
Telephone No. 503-813-6170
Date submitted October 13, 2021

LAND DESCRIPTION

Public Land States (Rectangle Survey System Lands)

1. STATE OR 2. FERC PROJECT NO. N/A
3. TOWNSHIP 39S RANGE 20E MERIDIAN Willamette

4. Check one: License Check one: x Pending
x Preliminary Permit Issued: _____

If preliminary permit is issued, give expiration date: not applicable

5. EXHIBIT SHEET NUMBER OR LETTERS

Section 6	5	4	3	2	1
		USFS/Private Exhibit 3	Private Exhibit 3		
7	8	9	10	11	12
		Private/ PacifiCorp Exhibit 3			
18	17	16	15	14	13
		Private/ PacifiCorp Exhibit 3			
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

6. Contact's name Tim Hemstreet

Telephone No. 503-813-6170

Date submitted October 13, 2021