

BEFORE THE OREGON WATER RESOURCES DEPARTMENT

Hydroelectric Application HE 617)	Initial
Pumped Storage Hydroelectric Project)	Record for
Swan Lake North LLC, Applicant)	Hearing

Oregon Administrative Rules, Water Resources Department, Chapter 690 Division 51
“Appropriation and Use of Water for Hydroelectric Power and Standards for Hydroelectric Applications,
https://secure.sos.state.or.us/oard/displayDivisionRules.action;JSESSIONID_OARD=PE3Si9-kUuJ2SRd66AWvrITeFamZxw-glmccKb9j_8gMH2BKrdY!-1736106524?selectedDivision=3156

Preliminary Permit -- HE 592

Application HE 592 – May 12, 2010
Fee Receipt – May 21, 2010
Corrected Application -- June 24, 2010
OWRD Public Notice – August 3, 10, 17, 24, 31, 2010
Email Notice to Agencies -- August 10, 2010
Newspaper Notice, *Herald and News*, August 10, 17, 24, and 31, 2010
Public Hearing – August 31, 2010
List of Attendees – August 31, 2010
Email Notice of Proposed Preliminary Permit – December 17, 2010
Proposed Preliminary Permit – December 17, 2010
Notice of Proposed Preliminary Permit – December 21, 2010
Final Order Preliminary Permit – February 8, 2011
Preliminary Permit HE 592 – February 8, 2011
Extension of Time on Preliminary Permit – April 30, 2013

Preliminary Permit -- HE 609

Application HE 609 – July 17, 2014
Fee Receipt – July 30, 2014
OWRD Public Notice – Sept 2, 2014
OWRD Meeting Notice – March 31 and April 7, 2015
Email Notice to Agencies -- March 18, 2015
Newspaper Notice, *Herald and News*, March 31 and April 7, 2015
Public Hearing – April 8, 2015
List of Attendees – April 8, 2015
Transcript Public Meeting -- April 8, 2015
Notice of Preliminary Permit – November 25, 2015
Final Order on Preliminary Permit -- November 24, 2015
Preliminary Permit HE 609 – November 24, 2015

Final Application -- HE 617

Oregon Water Resources Department, Water Right Information Systems, HE 617 Application
https://apps.wrd.state.or.us/apps/wr/wrinfo/wr_details.aspx?snp_id=200786

Document	Date
Application HE617 Image	10/30/2019
Application HE617 Map Image	10/30/2019
Appendix 3 FERC License	4/30/2019
Appendix 4 DEQ Letter	6/19/2018
Appendix 5 Irrigated Lands Mitigation	10/30/2019
Appendix 6 GW studies	10/11/2011
Appendix 6 Well Logs	10/11/2011
Appendix 7 OWRD report	11/18/2011
Appendix 8 and Land Use	10/30/2019
Exhibit A	10/30/2019
Exhibit A maps	10/30/2019
Exhibit B Operation Plan and Energy	10/30/2019
Exhibit C Construction Schedule	10/30/2019
Exhibit D Costs and Finance	10/30/2019
Exhibit E FERC FEIS part 1	1/24/2019
Exhibit E FERC FEIS part 4 to end	1/24/2019
Exhibit F Drawings	10/30/2019
Preliminary Permit HE 592	2/8/2011
Preliminary Permit HE 609	11/24/2015

Fee Receipt – October 30, 2019

OWRD Public Notice – November 5th and 12th, and December 3rd and 10th, 2019

Email Notice -- November 13, 2019

Mailing List -- November 13, 2019

Newspaper Notice, *Herald and News*, November 13th, December 3rd and 10th, 2019

Public Hearing – December 16, 2019

List of Attendees – December 16, 2019

Recording of Public Meeting -- December 16, 2019

Public Comments – Hurley -- December 27, 2019

Wirth – December 16, 2019,

WaterWatch and Oregon Wild -- January 13, 2020

Staff Response to Comments – March 2, 2020

Email Notice of Ready for Final Review -- March 3, 2020

Mailing List -- March 3, 2020
Public Comments -- May 4, 2020
Janet Neuman for the Applicant
WaterWatch of Oregon and Oregon Wild
Bryce Madsen

Proposed Final Order

Proposed Final Order -- To Be Announced
Email Notice of Proposed Order -- To Be Announced
Notice of Proposed Order -- To Be Announced

Transfer Application

Oregon Water Resources Department, Water Right Information System, Application **T-13280**.
https://apps.wrd.state.or.us/apps/wr/wrinfo/wr_transfer_centric.aspx?transfer_nbr=13280&transfer_char=T

Federal Energy Regulatory Commission ELibrary, Docket p-13318

Federal Energy Regulatory Commission, Original License, April 30, 2019,
https://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20190430-3099

Federal Energy Regulatory Commission, Final Environmental Impact Statement (Final EIS),
January 25, 2019,
https://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20190125-3006

Swan Lake North LLC, Reservoir water quality monitoring plan, April 30, 2020,
https://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20200430-5443

Swan Lake North LLC, Revegetation and Noxious Weed Management Plan, May 1, 2020,
https://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20200501-5047

Swan Lake North LLC, Eagle Conservation Plan (ECP), January 27, 2020,
http://elibrary.FERC.gov/idmws/file_list.asp?accession_num=20200127-5071

Swan Lake North LLC, Ungulate Protection Plan (UPP), May 6, 2020,
https://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20200506-5211

Swan Lake North LLC, Fire Prevention Plan, April 30, 2020,
https://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20200430-5441

Swan Lake North LLC, Sensitive Plant Surveys, March 2, 2020,
https://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20200302-5199

Need for Power

North American Electric Reliability Corporation (NERC), “2019 Long-Term Reliability Assessment (LTRA),

https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_LTRA_2019.pdf

Oregon Department of Energy, 2018 Biennial Energy Report, chapter 1
<https://www.oregon.gov/energy/Data-and-Reports/Documents/BER-Chapter-1-Energy-Numbers.pdf>

IEA HYDRO ANNEX IX // WHITE PAPER NO 1 - OCTOBER 2019, “Flexible hydropower providing value to renewable energy integration.”
https://www.ieahydro.org/media/51145259/IEAHydroTCP_AnnexIX_White%20Paper_Oct2019.pdf

Large Generator Interconnection Agreement, May 7, 2020, between PacifiCorp and Swan Lake North Hydro, LLC.

Groundwater Reports

Thoma, Michael J., Oregon Water Resources Department, Annual Report Regarding OWRD Technical Assistance for the U.S. Bureau of Reclamation Pilot Water Bank in the Upper Klamath Basin, Federal Fiscal Years 2019-2020, February 2020,
https://www.oregon.gov/owrd/wrdreports/USBR_2019_Klamath_Report.pdf

Oregon Water Resources Department, Groundwater Information System, Accessed May 12, 2020,

Well Log ID - Klam 2277

https://apps.wrd.state.or.us/apps/gw/gw_info/gw_hydrograph/Hydrograph.aspx?gw_logid=KLAM0002277

Well Log ID – Klam 2286

https://apps.wrd.state.or.us/apps/gw/gw_info/gw_hydrograph/Hydrograph.aspx?gw_logid=KLAM0002286

Well Log ID – Klam 10336

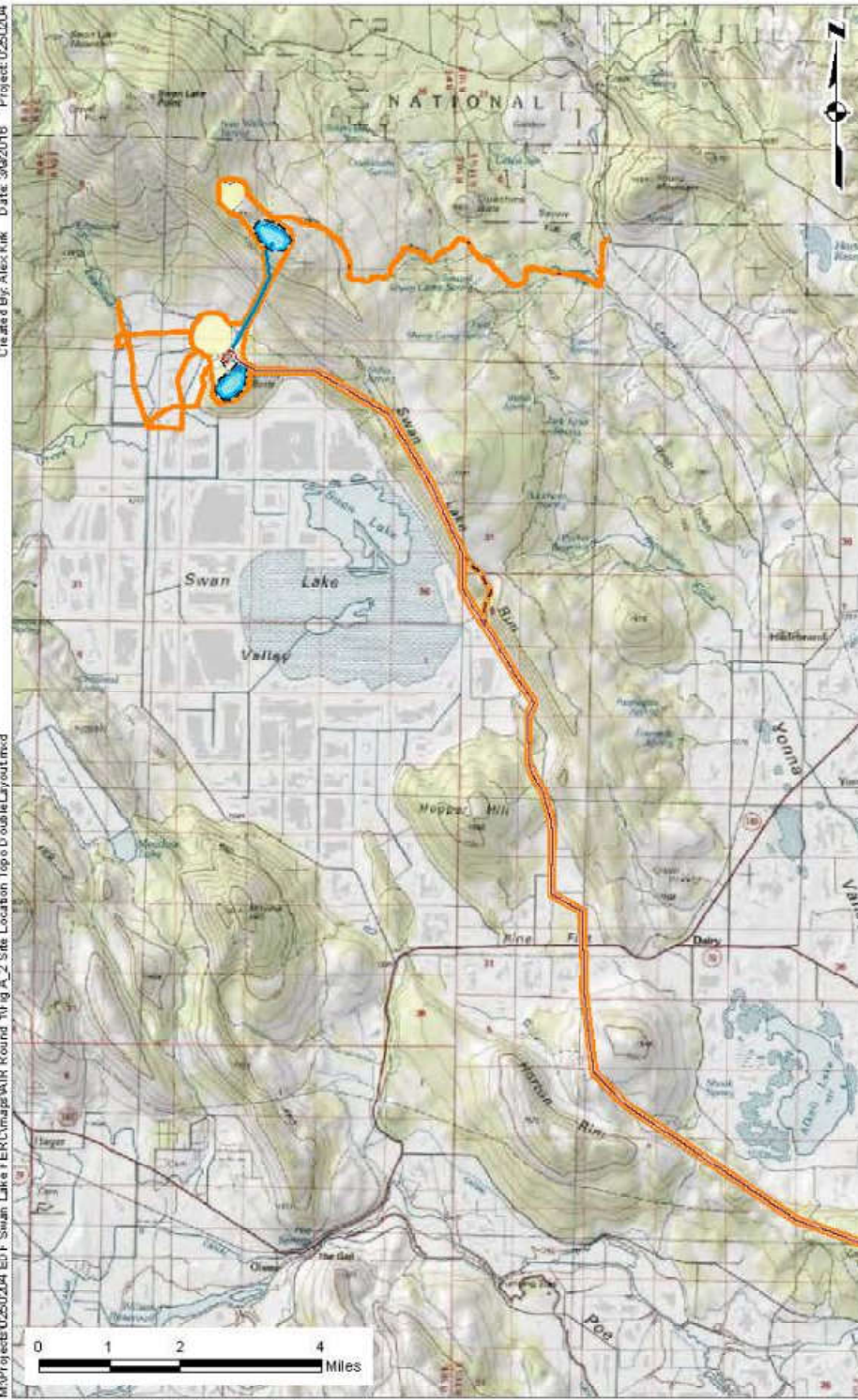
https://apps.wrd.state.or.us/apps/gw/gw_info/gw_hydrograph/Hydrograph.aspx?gw_logid=KLAM0010336

Well Log ID – KLAM 50493

https://apps.wrd.state.or.us/apps/gw/gw_info/gw_hydrograph/Hydrograph.aspx?gw_logid=KLAM0050493

Well Log ID – KLAM 12221

https://apps.wrd.state.or.us/apps/gw/gw_info/gw_hydrograph/Hydrograph.aspx?gw_logid=KLAM0012221



Legend

- Project Boundary
- Proposed Transmission Line
- Proposed Access Roads
- Proposed Penstock
- Proposed Reservoir
- Proposed Reservoir Berm Outer Slope
- Proposed Powerhouse
- Proposed Substation
- Proposed Powerhouse Pad
- Proposed Laydown Area

Figure A.2
Site Location and
USGS Topographic Map
Swan Lake North Pumped
Storage Hydroelectric Project
Final License Application
EDF Renewable Energy
Klamath Falls, Oregon

AGREEMENT TO AMEND STANDARD LARGE GENERATOR INTERCONNECTION AGREEMENT

This **Agreement To Amend Standard Large Generator Interconnection Agreement** ("Agreement") is made and entered into this 7th day of May, 2020, by and between PacifiCorp, an Oregon corporation (the "Transmission Provider") and Swan Lake North Hydro, LLC, a Delaware limited liability company (the "Interconnection Customer"). Transmission Provider and Interconnection Customer may be referred to as a "Party" or collectively as the "Parties."

RECITALS

WHEREAS, Transmission Provider and Interconnection Customer have entered into a Standard Large Generator Interconnection Agreement, dated October 31, 2019, and designated as Original PacifiCorp Service Agreement No. 960 (the "Interconnection Agreement");

WHEREAS, the Interconnection Agreement conforms to Transmission Provider's *pro forma* Standard Large Generator Interconnection Agreement included in Transmission Provider's Open Access Transmission Tariff;

WHEREAS, Transmission Provider and Interconnection Customer have mutually agreed to amend one or more appendices to the Interconnection Agreement; and

WHEREAS, Articles 30.9 and 30.10 of the Interconnection Agreement state that the Parties may by mutual agreement amend the Interconnection Agreement or its Appendices by a written instrument duly executed by the Parties, and such amendment shall become effective and a part of this Interconnection Agreement upon satisfaction of all Applicable Laws and Regulations;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, it is agreed:

- 1.0 The Parties acknowledge and mutually agree that the following attached appendix will be substituted in its entirety for the same appendix in the Interconnection Agreement:
 - Appendix B
- 2.0 Service under the Interconnection Agreement with the amended appendix will commence only upon execution by both Parties.
- 3.0 The Interconnection Agreement shall be designated by Transmission Provider as First Revised Service Agreement No. 960. Transmission Provider shall report the Interconnection Agreement, as amended, in the Electric Quarterly Report for the quarter in which service commences.

4.0 The Interconnection Agreement, with the attached substitute appendix shall constitute the entire agreement between the Parties.

5.0 All other provisions of the Interconnection Agreement will continue to apply.

IN WITNESS WHEREOF, the Parties have executed this Agreement in duplicate originals, each of which shall constitute and be an original effective Agreement between the Parties.

PacifiCorp

By: **Rick Vail**
Digitally signed by Rick Vail
Date: 2020.05.07 12:16:58 -07'00'

Title: VP, Transmission

Date: 05/07/2020

Swan Lake North Hydro, LLC

By: **Nathan Sandvig**
Digitally signed by Nathan Sandvig
DN: cn=Nathan Sandvig, o=NGV, ou,
email=nathan.sandvig@nationalgrid.com,
c=US
Date: 2020.05.07 10:15:21 -07'00'

Title: Vice President

Date: 5-7-20

Appendix B To LGIA

Milestones

Interconnection Customer executes Interconnection Agreement
November 1, 2019

†Interconnection Customer provides financial security
September 1, 2020

Interconnection Customer confirms PG&E/BPA/PAC line
crossing requirements
November 1, 2020

Interconnection Customer provides design information
December 1, 2020

Interconnection Customer authorizes Engineering &
Procurement
April 1, 2021

Interconnection Customer provides Transmission Provider
copies of executed agreements with all Affected Systems
May 1, 2021

*Transmission Provider Engineering & Procurement commences
May 1, 2021

Malin substation expansion permitting commences
October 1, 2021

**Interconnection Customer submits Energy Imbalance Market
Modeling Data
November 1, 2021

All Affected System design complete
February 1, 2022

Transmission Provider engineering design complete
October 1, 2022

Interconnection Customer Property/Permits/ROW procured
March 1, 2023

Interconnection Customer authorizes construction
April 1, 2023

Construction begins
1, 2023

May

Construction complete
October 1, 2024

Interconnection Customer's Facilities receive Backfeed
Power
November 1, 2024

Initial Synchronization/Generation Testing
June 1, 2025

Commercial Operation
November 1, 2025

Interconnection Customer to request backfeed, first sync,
and commercial operations in writing (email acceptable).
Transmission Provider to not unduly delay approval(s).

†Financial Security determined to be \$1,190,000

*As applicable and determined by the Transmission Provider,
within 60 days of the Interconnection Customer's
authorization for the Transmission Provider to begin
engineering, the Interconnection Customer shall provide a
detailed short circuit model of its generation system. This
model must be constructed using the ASPEN OneLine short
circuit simulation program and contain all individual
electrical components of the Interconnection Customer's
generation system.

**Any design modifications to the Interconnection
Customer's Generating Facility after this date requiring
updates to the Transmission Provider's network model will
result in a minimum of 3 months added to all future
milestones including Commercial Operation.

December 15, 2019

Dear Sirs,

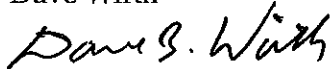
My name is Dave Wirth. My family operates a cattle ranch in Swan Lake and pump two wells to produce feed. Like everyone else in this area, we are concerned about the Swan Lake North Hydro project. The very limited testing of well capacities in Swan Lake produced results that in no way should be considered adequate to analysis the true scale of this project. Any permit granted to the Hydro wells should take in to account the potential for serious draw down and provide remedies for adjoining water rights.

Consider that the "Forbearance" factor is almost 3 acre feet of water for each acre not irrigated. Where this may be the figure granted by the existing rights, it is not an existential reality. Irrigators in the valley simply do not use that much water due to the shorter growing season, cost of electrical power and production constraints, such as wet soil types.

Consider that the Swan Lake North wells have been connected to each other through underground pipe lines for irrigation efficiency. If there is significant draw down on neighboring wells, how will this be adjudicated? Additionally, since the amount of "Maintenance" water is simply a calculated number, how will the actual reservoir refill be monitored for compliance?

Since Swan Lake North Hydro is requesting an unprecedented and radical alteration of their water usage, i.e. agricultural irrigation to industrial electrical regeneration, I respectfully request that the Water Resources Department change their wells' priority date to the present time frame to allow for an increase in "Forbearance acres" if significant draw down occurs on neighboring wells. If there is certainty in the claims that the Hydro Project will not overtly effect others irrigators, then this request should be acceptable. Thank you for your consideration.

Dave Wirth



541-891-8578

Meadow Lake Inc.

3708 Swan Lake Rd.

Klamath Falls, OR 97603

12-27-1919

Oregon Water Resource Department

Hydroelectric Program

725 Summer St. NE

Salem, OR 97301

Att: Mary Graine

Dear Mary

After attending your meeting 12-16-19 at which the impact to the water resource in the Swan Lake Valley was discussed by you and the local State representative. I wanted to respond to the information presented, and reconfirm my support to the Swan Lake Project. With the information that was presented that evening it becomes even more evident that there will be little to no impact to the aquifer to the surrounding area. The fact that the land owner will be using what is already their allotted water rights and then idle land to compensate for the recharging the reservoirs . Leads me to the final conclusion, no impact to others and positive financial gain, along with the green/renewable energy mandate that our power grid is going to.

This is an exciting Project and hope that construction can start in 2020.

Thank you.

A handwritten signature in black ink, appearing to read "Matt Hurley", with a stylized flourish extending from the end.

Matt Hurley

RECEIVED
DEC 30 2019
OWRD



January 13, 2020

Mary Graineey
Hydroelectric Program Coordinator
Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, OR 97301-1271
Mary.s.graineey@wrdd.state.or.us

Re: Comments and Objections, Swan Lake North Hydro LLC, Application to Develop a Major Hydroelectric Project

Dear Ms. Graineey,

WaterWatch of Oregon and Oregon Wild submitted comments outlining a number of concerns with previous iterations of this proposed project in September 2010, January 2011, and May 2015. We still believe there are both legal and natural resource capacity problems with the proposed water use for this project. We submit those comments here as “comments and objections.”

1. No legal authority to temporarily transfer an irrigation groundwater right to a one time fill of a reservoir; transfer not allowed by the temporary transfer statutes: Under Oregon law, temporary transfers are limited to “place of use and, if necessary to convey water to the new temporary place of use, temporarily change the point of diversion or point of appropriation...” ORS 540.523. A temporary transfer of “type” of use is not allowed under Oregon law. Even so, Swan Lake North Hydro LLC proposes to fill the project’s lined reservoirs over one or two irrigation seasons with 3,001 AF of water purportedly obtained via forbearance agreement from the “Edgewood Wells,” impacting 1,040.7 irrigated acres under water rights certificates 92375, 29530, and 87006. It is unclear how this forbearance agreement will legally achieve their plan of temporarily transferring these three irrigation rights to a new place of use and type of use for this one-time fill of the project reservoir. The forbearance agreement referred to in the project application does not provide legal authorization for change of the place of use or type of use under Oregon law for water rights certificates 92375, 29530, and 87006.

2. The transfer statutes do not allow change from a groundwater water right (G) to a reservoir right (R): ORS 540.520 allows for a transfer of a change in character of use, place of use, or point of diversion. The statutes do not contemplate a change in the method of appropriation. According to the application, Swan Lake North Hydro LLC is proposing to do just that – transfer a groundwater right to a reservoir right.

Changing a groundwater water right to a storage right does not fit within the construct of changing the character of use. As noted above, a groundwater right and a storage right refer to the method of appropriation, not use. The G- and R- in the permit codes are not designations of

use or place of use. The character of use has to be designated separately in either case; i.e., irrigation, mining, municipal, hydro, etc.

Reservoir rights are not the same as ground water rights and cannot be treated as interchangeable under the transfer statutes. A wholly separate section of the Water Code is dedicated to reservoir rights. See ORS 537.400 et al.

To allow this transfer not only would be in violation of the transfer statutes, but also by expanding the method of appropriation to also allow storage would result in an enlargement of the underlying groundwater right. The transfer statutes specifically prohibit this. See ORS 540.510.

3. The transfer would result in injury to other water users: The application materials indicate that Swan Lake North Hydro LLC believes it will be able to transfer 420 AF per year under water rights certificates 92375 and 87006 for the “annual maintenance of reservoir levels” after initially filling the lined reservoirs over one or two irrigation seasons with 3,001 AF of water obtained via agreement from the “Edgewood Wells” impacting 1,040.7 irrigated acres under water rights certificates 92375, 29530, and 87006. Again, it is not clear how the forbearance agreement provides legal authority for temporary change of use and type of use under Oregon law. Further, to allow Swan Lake North Hydro LLC to implement this scheme would result in injury to other water users. Irrigation practices do not consumptively use 100% of the water. In fact, based on the OWRD’s consumptive use factors for irrigation, it is likely that upwards of 50% of this water is not in fact consumed by the water right holder, but instead is lost to evaporation and/or groundwater recharge/return flow. In the Klamath River Basin, both surface and groundwater are dramatically overappropriated. Given the extraordinarily overappropriated state of water in the Klamath River Basin, any return flows/groundwater recharge is most certainly used by other water right holders. Thus, allowing appropriation for a reservoir fill and/or evaporation replacement would injure other water rights. The transfer statutes prohibit this. See ORS 540.510.

4. The proposed project will impair water resources in the Klamath Basin: As the OWRD is well aware, groundwater resources in the Klamath Basin, including the Lost River Basin, have undergone serious decline. This has been exacerbated by the 2001 and 2010, 2013, 2014, and 2015, and 2018 droughts. See “Ground-Water Hydrology of the Upper Klamath Basin,” Oregon and California, Scientific Investigations Report 2007-5050, Version 1.1., April 2010, USGS, WRD; see also, *The Oregonian*, “Klamath Basin’s water worries extend to wells,” August 28, 2010 (attached), and *Klamath Falls Herald & News*, “Groundwater program is a go,” April 21, 2015 (attached). Heavy well use is also reducing stream flows. Id. The total amount of water sought for Swan Lake North Hydro LLC’s project is significant. Both the initial filling of the reservoir and the annual replacement of evaporation will further deplete already declining groundwater, and likely surface water, resources of this basin. Water is not available in the Klamath Basin for this new proposed water use.

Despite the significant amount of water being sought for this project, Swan Lake North Hydro LLC’s application discounts the effects of its proposed project on the water resources of this state because it’s proposal is “simply a different use for some of the water that is already pumped” for irrigation. ORS 543.017 governing the development of hydroelectric projects applies whether or not the applicant is seeking a new water right or seeking to transfer an old water right. The statutes set forth strict standards that apply to all new hydroelectric projects. Regardless of any underlying water right proposed for use in the initial fill, annual maintenance, or any other purpose, this is a new hydroelectric project, which is subject to all provisions of ORS 543. To that end, in addition to conducting a full public interest review of this application under ORS 543.225, the state cannot approve the application unless it can ensure

that the project will not result in a net loss of wild game fish, or in the mortality, injury, or loss of natural habitat of anadromous salmon or steelhead. Given the over appropriated state of the groundwater resources of this basin, the documented connection to already over appropriated surface flows and the presence of endangered fish species in this basin (including the Lost River and Short-nosed Sucker), the use of water needed for this project will likely impair or be detrimental to the public interest.

5. The proposed project would damage important habitats and resources. Swan Lake is not currently protected as a wildlife refuge, but it is a critical area for migratory birds. USFWS biologists have identified the Swan Lake area as a “high priority” for “waterfowl habitat protection,” noting that the “extensive open-water and wet-meadow complex... is an important area for migrating ducks, geese (cacklers and white-fronts in the spring), swans, and cranes.” It further noted, “...intensive grazing and drainage threaten existing and future waterfowl values.”¹ The introduction of a significant construction project adjacent to this area would most certainly impact this waterfowl habitat, resulting in adverse impacts to native wildlife.

Conclusion: For the aforementioned reasons, WaterWatch and Oregon Wild oppose issuance of a permit for this proposed project.

Sincerely,



Jim McCarthy
Southern Oregon Program Director
WaterWatch of Oregon
P.O. Box 261
Ashland, OR 97520
jim@waterwatch.org



Doug Heiken
Conservation and Restoration Coordinator
Oregon Wild
P.O. Box 11648
Eugene, OR 97440
dh@oregonwild.org

¹ Bottorff, Jim. 1989. Concept Plan for Waterfowl Habitat Protection: Klamath Basin, Oregon and California. (North American Waterfowl Management Plan Category 28). U.S. Fish and Wildlife Service (Region 1), Portland, OR. November. Page 22-32.

Klamath Basin's water worries extend to wells

Scott Learn, The Oregonian By Scott Learn, The Oregonian

Follow on Twitter

on August 28, 2010 at 2:51 PM, updated April 05, 2012 at 4:59 PM



Doug Beghtel, The Oregonian

About three-quarters of Klamath Basin fields are still in production this summer, officials estimate. A wheel line sprinkler is a big upgrade from the flood irrigation of old, but not as efficient as more costly models. A restoration agreement signed this year counts on more federal money to help improve agricultural efficiency.

MERRILL -- During the last big drought crisis in the Klamath Basin, in 2001, Carleton Farms filed for bankruptcy. Nine summers later, amid drought crisis No. 2, heavy pumping of wells that Jim Carleton and his neighbors installed since 2001 is saving his bacon, or, more precisely, his alfalfa, potatoes, wheat, cattle and 12 employees who work his 2,000 acres.

As a Merrill councilman who oversees public works, Carleton also experienced the downside of this year's unprecedented well use. In June, after Merrill's wells ran dry, the town trucked in water for days and spent upward of \$25,000 lowering its wellhead.

Since 2001, the government has paid some basin farmers to irrigate with well water when

the weather turns dry. Gov. Ted Kulongoski's drought declaration in May allowed 89 one-year emergency wells this summer on top of 177 permanent wells sunk on the Oregon side of the basin during the past nine years.

But this year's pumping, roughly double previous highs, shows the limits of that strategy for resolving Oregon's most politically fraught water war.

The extra draw has lowered well water levels 30 feet in spots.

The aquifer also isn't close to recharging from greater well use since 2001, according to a **U.S. Geological Survey study** released in April -- before this summer's heavy pumping began.

Underground supplies aren't tapped out, Carleton notes. After going deeper, Merrill now has plenty of water.

"But people are putting a lot of pumping strain on the aquifer," Carleton says during a slow "farmer speed" drive through his fields. "Will it hold up? Time will tell."

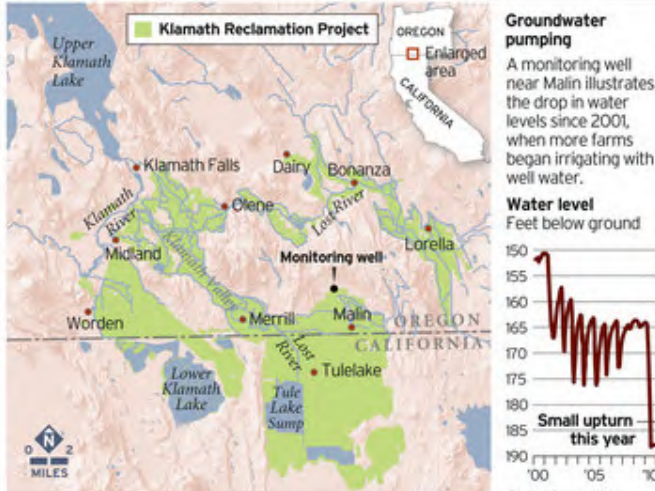
A long history

The Klamath Basin, running through high desert from southern Oregon into Northern California, is home to mammoth Upper Klamath Lake to the north, gorgeous rolling hills with views of Mount Shasta and more than 1,000 family farms such as Carleton's in Klamath County alone, many more than a century old.

The challenge is to find enough water for farms and fish, including coho salmon in the Klamath River and suckers in the lake and nearby Lost River, all listed under the Endangered Species Act.

The Klamath Basin

A U.S. Bureau of Reclamation project taps water from Upper Klamath Lake and steers it through canals and ditches to 190,000 acres of farms. Reclamation project farms have increasingly pumped well water since 2001 as lake water allocations have been cut. Another 310,000 acres of farms in the basin but "off-project," irrigate with water from rivers and wells.



Regulators walk an extraordinarily fine line. Water is needed for fish, third-generation farmers, waterfowl refuges and tribal and commercial fishermen.

Tribal fishing suffered from dams and a U.S. Bureau of Reclamation project that began in the early 1900s and teed up the land for agriculture. It used **Upper Klamath Lake** as a reservoir, diverted water to farms through hundreds of miles of canals and drained much of two other lakes to the south.

In the drought year of 2001, fish got water instead of farmers, sparking outrage nationwide. In 2002, with help from Vice President Dick Cheney, farmers got more water, but **fish died en masse** in the Klamath River.

[View full size](#)

In nondrought years, farmers on the **Klamath Reclamation Project** get 400,000 acre-feet of water from the lake -- at 130 billion gallons, that's about six times Portland's annual use.

This year, they'll get about 185,000 acre-feet from the lake. Well water will fill roughly half the shortfall. Idling an estimated 25,000 acres and irrigating less often, which reduces yields, makes up the rest of the deficit.

The reclamation project serves 190,000 acres. An additional 310,000 acres in the basin but outside the project -- typically higher-elevation land that has relied on river water or wells for decades -- generally got enough water for crops this summer.

The net result is a peculiar patchwork of unplanted and productive land.

Bare or weed-choked fields sit next to fields full of potatoes, onions, wheat, mint or deep green alfalfa. The mineral tang of spraying water and the sweet smell of hay hangs in the air.

Groundwater program is a go

By LACEY JARRELL H&N Staff Reporter | Posted: Tuesday, April 21, 2015 1:00 am

The Klamath Water and Power Agency has funds to help Klamath Project irrigators draw up to 40,000 acre-feet of groundwater this season.

On Monday, the Klamath Water and Power Agency (KWAPA) board of directors voted to include a groundwater program in the 2015 Water Use Mitigation Program (WUMP). The groundwater program will reimburse irrigators for energy costs to pump groundwater, plus \$20 per acre-foot.

KWAPA Executive Director Hollie Cannon said the WUMP dryland program — which compensates irrigators for not irrigating fields — had enough funds to idle 35,000 acres; however, Project irrigators only applied to idle 33,095 acres. Cannon said the board does not anticipate all those acres being contracted into the dryland program, which could allow the agency to fully fund the groundwater program.

Cannon emphasized that 40,000 acre-feet is a maximum estimate. He said how many acre-feet the groundwater program includes will depend on how many dryland acres are contracted. The groundwater program is only open to irrigators who submitted WUMP applications before the April 17 deadline.

Groundwater levels at risk

Ivan Gall, an Oregon Water Resources Department (OWRD) groundwater section manager, said the OWRD recommends irrigators only pump 15,000 acre-feet this year. Gall said the recommendation is based on data from the U.S. Geological Survey, and it is intended to help conserve water in the aquifer.

“We felt it would minimize any groundwater declines,” Gall said.

Gall said Project irrigators pumped roughly 84,000 acre-feet last year, causing the water table to fall up to 4 feet in some areas. He said pumping another 40,000 acre-feet could cause it to fall further.

“I’d expect to see another 1 to 2 feet of decline from that,” Gall said.

At the Monday meeting, the KWAPA board also voted to extend the domestic well mitigation program, which provides aid for homeowners with domestic wells impacted by irrigation groundwater pumping. The program will help homeowners have pumps lowered or wells deepened, Cannon said.

The domestic well program will run through 2015 or until the agency depletes the \$500,000 allocated for the program — whichever happens first.

Early season pumping



Oregon

Kate Brown, Governor

Water Resources Department

North Mall Office Building
725 Summer St NE, Suite A
Salem, OR 97301
Phone (503) 986-0900
Fax (503) 986-0904
www.wrd.state.or.us

March 2, 2020

JIM MCCARTHY
WATERWATCH OF OREGON
PO BOX 261
ASHLAND, OR 97520

DOUG HEIKEN
OREGON WILD
PO BOX 11648
EUGENE, OR 97440

Dear Mr. McCarthy and Mr. Heiken,

I am writing in response to your letter of January 13, 2020 concerning the Swan Lake North LLC hydroelectric application HE 617. Thank you for your comments and objections.

The Department is processing the application under the provisions of the Hydroelectric Act set out in ORS Chapter 543 and administrative rules OAR 690 Division 051. The priority date of the hydroelectric use, the initial fill that could be allowed under the new hydro license would carry a priority of October 2019. The priority date is not being transferred from an existing irrigation water right. By rule, all new hydroelectric uses are subordinated to any other beneficial use of water. Therefore, this Department could regulate the initial hydroelectric fill as a junior right, if necessary.

ORS Chapter 543.010(2) defines a hydroelectric project as:

“Project” means a complete unit, improvement or development. It includes, among other things, power houses, water wheels, conduits or pipes, dams and appurtenant works and structures, storage, diverting or forebay reservoirs connected therewith, and primary lines transmitting power to the point of junction with a distributing system, or with any interconnected primary system, miscellaneous works and structures used in connection with the unit or any part thereof, rights of way, lands, flowage rights and all other properties, rights and structures necessary or appropriate in the use, operation and maintenance of any such unit.”

Therefore, the Department considers the project reservoirs to be integral to the hydroelectric application and its review process.

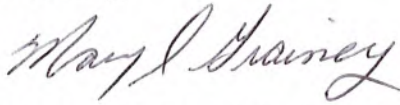
This project application is unique in that the forbearance agreement would result in zero new allocation or appropriation of water for the initial fill of the project reservoirs. The Department expects that meters would be installed at each of the 4 wells involved in the project. In addition, any new hydroelectric license would require a meter on the pipeline supplying water to the lower reservoir. The Department expects to continue other groundwater monitoring efforts in the basin.

The Department is issuing its second notice inviting comments on this project and recommendations for conditions on the use. The comment period will be open until May 2, 2020. Following this comment period, the Department will prepare a proposed order on the license application for which there will be 30 days to file comments or protests.



Thank you for your participation in this process and comments on this project application.

Sincerely,

A handwritten signature in cursive script, reading "Mary S. Grainey".

Mary S. Grainey, P.E., C.W.R.E.
Hydroelectric Program Coordinator
Mary.s.grainey@oregon.gov

cc. Erik Steimle
Janet Neuman, attorney
Lauren Jespersen
Peter Mohr, attorney



Oregon

Kate Brown, Governor

Water Resources Department

North Mall Office Building

725 Summer St NE, Ste A

Salem, OR 97301

Phone: 503-986-0900

Fax: 503-986-0904

www.Oregon.gov/OWRD

March 2, 2020

DAVID WIRTH
MEADOW LAKE INC.
3708 SWAN LAKE ROAD
KLAMATH FALLS, OR 97603

Dear Mr. Wirth,

I am writing in response to your comments and concerns about the Swan Lake North Hydro project in your letter of December 15, 2019.

In response to your concern about the priority date of the hydroelectric use, the initial fill that could be allowed under the new hydroelectric license would carry a priority date of October 2019. In addition, by rule, all new hydroelectric uses are subordinated to any other beneficial use of water. Therefore, this Department could regulate the initial hydroelectric fill as a junior right, if necessary.

In response to your concern about monitoring the amount of water pumped for hydroelectric purposes, the Department expects that meters would be installed at each of the 4 wells involved in the project. In addition, any new hydroelectric license would require a meter on the pipeline supplying water to the lower reservoir. The Department expects to continue other groundwater monitoring efforts in the basin.

The Department is issuing its second notice inviting comments on this project and recommendations for conditions on the use. The comment period will be open until May 2, 2020. Following this comment period, the Department will prepare a proposed order on the license application for which there will be 30 days to file comments or protests.

Thank you for your participation in this process and comments on this project application.

Sincerely,

Mary S. Grainey, P.E., C.W.R.E.
Hydroelectric Program Coordinator
Mary.s.grainey@oregon.gov

cc. Erik Steimle
Janet Neuman, attorney
Lauren Jespersen
Peter Mohr, attorney





Oregon

Kate Brown, Governor

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725 Summer St NE, Ste A

Salem, OR 97301

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www.Oregon.gov/OWRD

March 2, 2020

MATT HURLEY
2041 VAN NESS
KLAMATH FALLS, OR 97601

Dear Mr. Hurley,

I am writing in response to your support for the Swan Lake North Hydro project in your letter of December 27, 2019.

The Department is issuing its second notice inviting comments on this project and recommendations for conditions on the use. The comment period will be open until May 2, 2020. Following this comment period, the Department will prepare a proposed order on the license application for which there will be 30 days to file comments or protests.

Thank you for your participation in this process and comments on this project application.

Sincerely,

Mary S. Grainey, P.E., C.W.R.E.
Hydroelectric Program Coordinator
Mary.s.grainey@oregon.gov

cc. Erik Steimle
Janet Neuman, attorney
Lauren Jespersen
Peter Mohr, attorney



May 4, 2020

Via Email

Mary S. Graineey P.E., C.W.R.E.
Hydroelectric Program Coordinator
Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, OR 97301

Re: Application HE-617

Dear Ms. Graineey:

I am writing on behalf of my client, Swan Lake North Hydro, LLC (“Swan Lake”), the applicant in Applications HE-617 and T-13280. As you know, Swan Lake has filed these applications to secure water rights necessary for the completion, operation, and maintenance of its proposed, closed-loop pumped-storage hydroelectric project (the “Project”). Please accept and consider this letter as a response to the comments submitted on Application HE-617 by Dave Wirth on December 15, 2019, and jointly by WaterWatch and Oregon Wild (together, “WaterWatch”) on January 13, 2020. To the extent that WaterWatch’s comments also concern Swan Lake’s transfer application T-13280, Swan Lake will provide only a limited response. WaterWatch’s comments were submitted well after the period for commenting on Application T-13280 had closed; therefore, the transfer comments cannot properly be made part of the record for either the transfer application or for Application HE-617.¹

1. Response to Wirth Comments.

Mr. Wirth’s comments primarily concern his belief that the Project has the potential to produce “serious draw down” in his two wells and other wells in the area. Mr. Wirth’s property is located more than seven miles south of the Project

¹ Pursuant to OAR 690-380-4000(3) and (4) and the Oregon Water Resources Department’s (“OWRD”) November 12, 2019 weekly public notice bulletin, the public comment period on Application T-13280 closed on December 12, 2019.

wells.² Mr. Wirth claims that Application HE-617 cannot be approved because: (1) the groundwater study done by GeoDesign was inadequate to conclude that no drawdown would occur to other wells within the Swan Lake Basin; and (2) a forbearance credit of up to 3 acre-feet for each acre to be temporarily dried up to offset the Project's water use is excessive.

Additionally, Mr. Wirth questions how the Project's use of annual maintenance water will be monitored to ensure that the Project does not use more water than requested.³ Finally, Mr. Wirth requests that OWRD "change [the Edgewood Ranch] wells' priority date to the present time frame" to address any significant drawdown on other wells.

A. The GeoDesign groundwater study conclusively establishes that no drawdown would occur to Mr. Wirth's and other wells in the Swan Lake Basin as a result of the Project's operation.

Mr. Wirth claims that "the very limited testing of well capacities in Swan Lake" did not adequately analyze the Project's scale and that any approvals granted "should take into account the potential for serious drawdown and provide remedies for adjoining water rights." As OWRD is well aware, GeoDesign's groundwater study was extensive, rather than limited, and Mr. Wirth's criticisms of the study are not well-founded.⁴ GeoDesign's groundwater analysis, relying in part on a comprehensive set of well pump tests, provided a thorough assessment of the Project's potential impact on drawdown and groundwater levels in the Swan Lake Basin.

² The wells planned for use in the project are in Sections 8 and 9 of T37S, R10E. One of Mr. Wirth's wells, KLAM 52580, is located in Section 16 of T38S, R10E. We have not been able to identify the location of Mr. Wirth's second well.

³ This comment relates to the transfer application, not the hydro application. Also, Mr. Wirth suggests that monitoring is required because this is "simply a calculated number." It is not clear what Mr. Wirth's concern is here, since "a calculated number" is readily measurable.

⁴ OWRD groundwater staff said that "the work conducted by GeoDesign was very thorough and competent." Memorandum from Jerry Grondin, OWRD Hydrogeologist, to Swan Lake Valley Pump-Storage Project File, 18 November 2011, pp. 2, 7 ("Grondin Memorandum"). This document is included in Application HE-617 as Appendix 7.



GeoDesign ran simultaneous pump tests on all four of the proposed Project wells during multiple test periods while monitoring seven observation wells for evidence of drawdown. Each Project well was pumped at the maximum authorized pumping rate under its respective water right for no less than 12,754 minutes (approximately 9 straight days). GeoDesign, Inc., *Revised Groundwater Interference Testing Report: Swan Lake North Pumped Storage Hydroelectric Project, Klamath County, Oregon, FERC No. 13318*, pp. 9-10 (October 11, 2011) ("GeoDesign Report").⁵ GeoDesign explained the rationale for this approach as follows:

“The rationale for testing the supply wells at a higher rate was twofold: (1) testing at the highest allowable pumping rates supports and [sic] evaluation of worst-case drawdown scenarios and (2) testing at the highest allowable pumping rates would increase the likelihood of obtaining measurable drawdown at relatively greater distances from the pumped wells; therefore resulting in a more robust data set . . . than could be obtained using lower pumping rates.”

GeoDesign Report at 3.

During the testing period, flow measurements were taken from each of the Project wells (a) hourly for the first 24 hours, (b) every four hours during the next 48 hours, and (c) every eight hours throughout the remaining nearly six-day period. *Id.* at 7. Completion of the pump tests revealed that only the two observation wells located within 1.2 miles of the Project wells experienced declines of 0.5 feet or less. *Id.* at 15. (These two observation wells also belong to Edgewood Ranch. *Id.* at 10.) The remaining five observation wells, located from 3 to 11 miles from the nearest Project well, experienced no drawdown or interference whatsoever. *Id.* at 15. GeoDesign assessed its test results as “conservative”—meaning that the actual declines at the closely-located Edgewood Ranch observation wells would likely be even lower during Project fill than the nominal declines recorded during testing, due to the influence on the aquifer of factors other than pumping for the Project. *Id.* at 2, 20-21, 23.

Such findings are also notable given that, as previously stated, Mr. Wirth’s property is located more than seven miles south of the Project wells. Since no drawdown occurred at the next closest observation well (which was only three miles away), there is no evidence that operation of the Project wells—even pumped at their maximum rate—could potentially interfere with Mr. Wirth’s wells. Moreover, GeoDesign’s testing confirmed that subsurface structural

⁵ The GeoDesign Report is included as Appendix 6 to Application HE-617.



barriers interfere with groundwater flow between aquifers north of Swan Lake (called the Swan Lake North Compartment) and those to the south. Wells south of the barrier, such as Mr. Wirth's, are partially structurally isolated from the Project wells, making them even less likely to experience any interference from the completion and operation of the Project. *Id.* at 4-5, 10-11, 19-20; see also Grondin Memorandum at 2, 7.

GeoDesign then used the observed results to estimate the impacts over a pumping period of three years, which was the period of time originally predicted to complete the initial fill of the Project's closed-loop reservoir system. At that time, the Project's size and water demand was planned to be much greater than it currently is.⁶ Based on the Project's current size, the fill is expected to be completed in 1 to 2 years. Considering these findings, combined with those of a 2004 study which had found seasonal groundwater level fluctuations of 2 to 7 feet as the cumulative impact of groundwater withdrawals from *all* wells within the Swan Lake Basin,⁷ GeoDesign concluded that: (1) the Project wells, when pumped at their maximum annual duties of 3 AF per acre under the existing irrigation water rights, "will not create additional or excessive stress on the groundwater resource; (2) "[a]ctual realized drawdowns (if observed or measurable) caused by the proposed reservoir filling are expected to be less than the values estimated during [GeoDesign's] analysis;" and (3) as a result, "the proposed reservoir filling is not expected to impact the ability to fully exercise a given water right in the study area." GeoDesign Report at 23.

Finally, as further evidence of the credible methodologies employed by GeoDesign in executing the study, GeoDesign's test results and related conclusions were independently confirmed by OWRD's groundwater staff in a separate report. Grondin Memorandum, *supra* note 4. On the basis of the GeoDesign study and its own review, OWRD found that other water rights holders would not be injured by the shift of a portion of Edgewood Ranch's groundwater use to the Swan Lake Project—even considering the larger Project size planned at that time. *Id.* at 7-8.

⁶ GeoDesign assumed an initial reservoir fill of 13,935 acre-feet ("AF") of water and an annual maintenance refill to account for evaporation of 1,574 AF. The current project is a fraction of that size, requiring an initial fill amount of only 3,001 AF and annual maintenance fills of only 420 AF to offset evaporative losses.

⁷ *Citing* Grondin, G.H. (2004), "Ground Water in the Eastern Lost River Sub-Basin, Langell, Yonna, Swan Lake, and Poe Valleys of Southeastern Klamath County, Oregon," Ground Water Report Number 41, Oregon Water Resources Department, Salem, Oregon.



B. As a matter of law, Edgewood Ranch can offset the amount of water temporarily required by the Project by forbearing the irrigation of specified acreage under its existing water rights at a rate of 3 AF per acre.

Mr. Wirth objects to Edgewood Ranch's intention to forbear use of portions of its existing water rights at a rate of 3 AF per acre to offset groundwater use by the Project. He alleges that this amount of forbearance credit does not reflect the "reality" of actual per-acre irrigation use in the Swan Lake Basin. Mr. Wirth says that irrigators in the valley "simply do not use that much water" per acre, though he does not offer any documentation to support his claim. Moreover, this statement is not germane to Swan Lake's application and Edgewood Ranch's commitment to mitigate the Project's proposed water use. Even assuming an irrigator has periodically applied less than the maximum per-acre amount authorized under his or her water right, as long as the irrigator has a system capable of appropriating the full amount and is "ready, willing and able" to do so, the irrigator can at any time apply the maximum amount, provided that the use does not amount to an illegal waste of the water.⁸ Hence, a legal water right cannot necessarily be ratcheted down if or whenever an irrigator does not use the full authorized amount. The originally authorized extent of Edgewood Ranch's water rights controls the amount of water available for use and, in this case, for forbearance credit as a means to mitigate groundwater use by the Project.

Mr. Wirth also expresses concern about the interconnection among the Edgewood Ranch's wells. As part of the application, Edgewood Ranch has already committed to install meters on each of its wells and on the pipeline that will be exclusively dedicated to delivering water to the Project. As a result, it will be very easy for OWRD to monitor both the amount of water Edgewood Ranch delivers to the Project and the amount of water the ranch uses for irrigation.

Finally, there is no legal basis whatsoever for Mr. Wirth's request that OWRD "change [Edgewood Ranch's] wells' priority date" as a condition of allowing forbearance of use of those wells to mitigate the Project's water use. When approved, the hydroelectric license will possess a 2019 priority date. However, approval of HE-617 cannot as a matter of law alter the existing legal components of Edgewood Ranch's underlying irrigation water rights. Once the

⁸ ORS 540.610(3). See also OAR 690-250-0010 (defining "Beneficial Use" as the "reasonably efficient use of water without waste for a purpose consistent with the laws and the best interests of the people of the state") and OAR 690-380-3000 (allowing the change of use of water rights provided the applicant currently possesses a system to utilize the full amount of the water subject to transfer).



initial fill of the Project's closed-loop reservoir system is complete, Edgewood Ranch will be able to resume irrigation of the temporarily dried up "set-aside" lands the following irrigation season with the portion of its water rights that are appurtenant to those lands, in accordance with the applicable priority dates and other terms of those water rights. OWRD cannot simply change the priority of an existing, non-cancelled water right.

2. Response to WaterWatch/Oregon Wild Comments.

WaterWatch provided comments challenging approval of application HE-617 based on the following arguments: (1) no legal authority exists to temporarily transfer an irrigation groundwater right to a one-time fill of a reservoir; (2) the transfer statutes do not authorize change from a groundwater right to a reservoir water right; (3) the transfer would result in injury to other users; (4) the proposed project will impair water resources in the Klamath Basin; and (5) the proposed project would damage important habitats and resources. These arguments are not persuasive. They stem from a misunderstanding of the proposed use of groundwater as set forth in the application and a misconstruction of applicable law.

A. WaterWatch is correct that no legal authority exists to temporarily transfer the place of use of an irrigation groundwater right to a one time fill of a reservoir, but this point is misplaced because Swan Lake is not applying for a temporary transfer.

While WaterWatch correctly states that the temporary transfer statute (ORS 540.523) does not authorize a temporary transfer of an irrigation right to fill a reservoir, that statute is irrelevant to Application HE-617. Swan Lake is *not* proposing a temporary transfer of *any portion* of the Edgewood Ranch irrigation water rights.

As explained in response to Mr. Wirth's comments, for purposes of the *hydroelectric license application*, Swan Lake and Edgewood Ranch are not seeking approval from OWRD to make any legal changes to Edgewood Ranch's water rights represented by Certificates 92375, 29530, and 87006. Rather, as described above and further explained in Swan Lake's application, Swan Lake intends to fill its reservoirs initially with 3001 AF from Edgewood Ranch's wells, while Edgewood totally forbears from using an equivalent amount of water under its irrigation rights by drying up sufficient irrigated acreage during the period required to complete the fill. Hence, no change in character of use or place of use is requested under Application HE-617 for any portion of Edgewood Ranch's irrigation water rights. Therefore, ORS 540.523 simply does not apply.



B. WaterWatch’s argument that ORS 540.520 does not allow a change in the method of appropriation is unpersuasive because Application HE-617 does not contemplate a change in method of appropriation.

As stated at the outset of these comments, WaterWatch’s comments on Swan Lake’s pending permanent transfer application T-13280 were untimely and the two arguments addressing the permanent transfer must thus be disregarded. The comment period for the transfer application closed on December 12, 2019 and OWRD received no public comments on Application T-13280 during that time. Therefore, OWRD should not consider WaterWatch’s comments on the permanent transfer now in its review of HE-617. Nonetheless, Swan Lake will address these arguments briefly here to show their lack of merit.

WaterWatch acknowledges that ORS 540.520, the permanent transfer statute, allows for a change in character of use, but argues that it does not allow a “change in the method of appropriation.” WaterWatch incorrectly argues that storage is a means of appropriation and further that “to allow this transfer not only would be in violation of the transfer statutes, but also by expanding the method of appropriation to also allow storage would result in an enlargement of the underlying groundwater right.” WaterWatch does not provide any legal authority or other support for these statements.

Swan Lake does *not* propose any change in the method of appropriation, as the method to be used to appropriate water to maintain the Project reservoir levels will remain the withdrawal of groundwater from Edgewood Ranch’s wells. Swan Lake merely proposes to change the *character of use* of 420 AF from irrigation to hydroelectric generation—not “storage”—to replace annual evaporative losses, and such a change is allowed by the statute. The water transferred to the Project will no longer be used for irrigation by Edgewood Ranch, but will be used for hydroelectric generation. No portion of Edgewood Ranch’s existing water rights are being “expanded” or enlarged.

C. WaterWatch’s argument that the proposed permanent transfer of 420 acre-feet would result in injury to other water users is unsupported and contrary to the GeoDesign study.

As discussed at length in response to Mr. Wirth’s comments, GeoDesign’s groundwater study confirmed that, even when all of the Project wells were simultaneously and continuously pumped at their maximum authorized pumping rate for nearly 9 straight days, there was no evidence of drawdown on any wells other than the two owned by Edgewood Ranch located within 1.2 miles of the test wells (of less than one foot). This is conclusive evidence that the transfer of a



small portion of Edgewood Ranch's water rights to the Project will not result in injury to other water users.

Furthermore, WaterWatch's arguments hinge on an injury analysis that pertains to protection of downstream junior diversions in surface water transfers. WaterWatch does not provide any legal authority to extend these principles to review of a transfer involving groundwater that is not hydraulically connected to surface water. Regardless, and without admitting the applicability of a surface water injury analysis to changes of use that only consider groundwater resources, Swan Lake will briefly address how approval of Application T-13280 will not result in "injury" to other groundwater users.

WaterWatch does not take issue with the GeoDesign findings. Instead, WaterWatch's injury claim is that irrigation practices consumptively use less than 50% of the water diverted, with the rest being lost to evaporation, groundwater recharge, or return flows. WaterWatch provides no evidence for this allocation, nor any documentation of any actual aquifer recharge from Edgewood Ranch's irrigation that other water users depend on. In fact, the 2007 United States Geological Service ("USGS") study cited by WaterWatch in its comments does not support WaterWatch's argument.

The USGS estimated irrigation efficiencies in the basin to be 90% for drip systems and 75% for center pivots. USGS, *Ground-Water Hydrology of the Upper Klamath Basin, Oregon and California*, Scientific Investigations Report 2007-5050 (April, 2010) at 39 ("USGS Report"). Edgewood Ranch uses primarily pivots. Additionally, the evaporation rate is high in this area, leaving less to infiltrate as groundwater recharge. USGS Report at 18.⁹

Furthermore, ownership parcels are large in this valley and, as noted in the GeoDesign report, the closest well to the Project wells off the ranch is three miles away, with the next closest well almost twice as far away from the Project wells. The existence and amount of recharge from irrigation is highly localized, depending on weather and climate, local geology, methods of irrigation, and other specific variables. *Id.* at 20-21, 40. Thus, regardless of the accuracy of WaterWatch's claimed efficiency rate, WaterWatch has not demonstrated that any recharge occurs from Edgewood Ranch's irrigation, or that any other water

⁹ The USGS Report says that deep percolation of irrigation water is probably not a significant source of recharge to the region's groundwater. *Id.* at 21.



user relies on that recharge to such an extent that transfer of only 420 AF annually would reduce the groundwater available to that user.¹⁰

D. WaterWatch’s argument that the Project would impair water resources in the Klamath Basin is based on inapplicable generalities.

WaterWatch claims that, because groundwater levels are declining generally in the “Klamath Basin,” additional groundwater is “not available in the Klamath Basin for this new proposed water use.” First of all, WaterWatch cites no basis for such a sweeping, summary conclusion. What it does cite are a few newspaper articles and the above-mentioned 2007 USGS report that refer to declining ground water levels in some areas. To argue, however, that these materials support denying Swan Lake’s application is unsupportable because the Project does not contemplate any *new* appropriation of groundwater whatsoever. As expressly set forth in Application HE-617, the Project’s appropriation and repeated re-use of water for generating hydroelectricity will be fully mitigated by Edgewood Ranch’s forbearance from using equivalent amounts of water for irrigation under its *existing* water rights. Approval of HE-617 will not result in any additional appropriation of groundwater beyond what Edgewood Ranch is currently and unequivocally entitled to appropriate as a matter of law.

WaterWatch’s assertion of a “documented connection to already over-appropriated surface flows” is equally unsubstantiated. WaterWatch offers no proof whatsoever that a connection exists between surface flows in the Klamath Basin and the appropriation of groundwater by Edgewood Ranch. As emphasized above, HE-617 does not represent a new appropriation. To the contrary, every molecule of groundwater to be used by the Project has already been allocated as a matter of law to appropriation by Edgewood Ranch under its existing water rights.

E. WaterWatch’s claim that the Project would damage important habitat and resources is an unsupported assertion.

WaterWatch says that construction of the Project “would most certainly impact . . . waterfowl habitat, resulting in adverse impacts to native wildlife.” WaterWatch does not provide any evidence in support of this claim. As OWRD is

¹⁰ The Comments cite to two attached news articles for the statement that heavy well use is also reducing streamflows, but the articles say nothing of the sort. When discussing instream impacts, the articles point to the use of surface water from Klamath Lake and the Klamath River, not groundwater use.



aware, Swan Lake engaged in an extensive wildlife habitat and resource analysis during the rigorous FERC license approval process. That process included extensive review of impacts to wildlife, including preparation and review of a comprehensive Environmental Impact Statement, included with Application HE-617 as Exhibit E. License 13318-003 contains several specific conditions pertaining to protection of wildlife, including a Wildlife Habitat Restoration and Enhancement Plan that provides for off-site mitigation for impacts to wildlife. FERC License, 13318-003, ¶24.¹¹ WaterWatch's claims that approval of the Project will result in "certain" and "adverse" impacts to waterfowl habitat has no basis in fact, nor has WaterWatch provided any evidence that would require a different conclusion to that drawn by FERC.

3. Conclusion

As demonstrated here, Swan Lake's Application HE-617 should be approved. The comments made by Mr. Wirth and WaterWatch do not offer any persuasive arguments to the contrary. Thank you for your careful review of the application and for your full consideration of these comments.

Sincerely,

/s/ Janet E Neuman

Janet E. Neuman
Senior Counsel

cc: Peter D. Mohr, Counsel for Edgewood Ranch, Inc.

¹¹ The FERC license is included in Application HE-617 as Appendix 3.





May 4, 2020

Mary Grainey
Hydroelectric Program Coordinator
Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, OR 97301-1271
Mary.s.grainey@wrdd.state.or.us

Re: Comments and Objections, Swan Lake North Hydro LLC, Application to Develop a Major Hydroelectric Project (Application HE-617)

Dear Ms. Grainey,

WaterWatch of Oregon and Oregon Wild submitted comments outlining a number of concerns with previous iterations of this proposed project in September 2010, January 2011, May 2015 and January 2020. We still believe there are both legal and natural resource impact problems with this new proposed hydroelectric project and its proposed water use. We do not believe the project can meet the standards of ORS 543 and therefore Application HE-617 ("Application") cannot lawfully be approved. We submit those comments as "comments and objections."

Background:

Swan Lake North Hydro LLC, a Delaware limited liability company registered to do business in the State of Oregon ("Applicant"), has filed the Application proposing to construct a major new hydroelectric project, subject to the rigorous standards of ORS 543, in an area of the Klamath Basin known as Swan Lake. Swan Lake is a critical area for migratory birds. USFWS biologists have identified the Swan Lake area as a "high priority" for "waterfowl habitat protection," noting that the "extensive open-water and wet-meadow complex . . . is an important area for migrating ducks, geese (cacklers and white-fronts in the spring), swans, and cranes."¹ Despite the well-documented problems with groundwater declines in the Klamath Basin, the project proposes to utilize groundwater for use in the reservoir and for hydroelectric generation.

1. The proposed use of irrigation groundwater rights for a one time fill of the project reservoir is unlawful.

The Application states that the project reservoir would be filled with water from certificates 92375, 29530, and 87006 (Application at 12), which are groundwater rights authorizing a mix of primary and supplemental irrigation use. Swan Lake North Hydro LLC proposes to fill the project's lined reservoirs over one or two irrigation seasons with 3,001 AF of water purportedly

¹ Bottorff, Jim. 1989. Concept Plan for Waterfowl Habitat Protection: Klamath Basin, Oregon and California. (North American Waterfowl Management Plan Category 28). U.S. Fish and Wildlife Service (Region 1), Portland, OR. November. Page 22-32.

obtained via forbearance agreement from the “Edgewood Wells,” impacting 1,040.7 irrigated acres under the three irrigation rights. That is not legal under Oregon’s Water Code.

Applicant claims it will fill the reservoir pursuant to a written agreement with the holder of the certificates:

“Pursuant to the written agreements entered into between the Applicant and Edgewood, as attested to in the Affidavit of Consent to Forbear Water Use submitted with this Application (SEE APPENDIX 8), all use of the 3,001 acre-feet under the Reservoir Water Right will be fully offset, and therefore mitigated, in time, place, and amount by Edgewood’s concurrent forbearance from appropriation of an equal amount of water authorized for irrigation use under Water Rights Certificates 92375, 29530, and 87006 (the “Edgewood Water Rights”).”

(Application at 12).

OWRD has no statutory authority to rely upon such a written agreement – which the agency also has no way to enforce – to allow water use that is not the use authorized in these groundwater irrigation certificates. The forbearance agreement referred to in the Application does not provide legal authorization for change of the place of use or type of use under Oregon law for water rights certificates 92375, 29530, and 87006.

We note also that only one of the certificates involved has measurement requirement (932375) and none have reporting conditions. Even if it were legal, which it’s not, there does not appear to be any mechanism for accountability. The Application discusses metering three wells (at 6), but the forbearance letter identified four for use to fill the reservoir (Application, Appendix 5, Ex. B). Additionally, certificate 29530 is subject to terms and conditions of an agreement with the State Engineer, Volume 3, 705-06 that have not been described or addressed in the Application.

Oregon law has a mechanism for temporary transfers but those are limited to “place of use and, if necessary to convey water to the new temporary place of use, temporarily change the point of diversion or point of appropriation...” ORS 540.523. A temporary transfer of “type” of use is not allowed under Oregon law.

Finally, the forbearance proposal would injure other water right holders (see 2(b) for discussion).

2. The transfer of groundwater certificates for ongoing project use is not lawful.

The project proposes to partially transfer the groundwater irrigation certificates 92375 and 87006 to provide the water for ongoing project use (T-13280):

“Under this application, groundwater will be withdrawn only during the irrigation season for Project construction, initial fill of the “Project Reservoir System,” and occasional re-fill of the Project Reservoir System, if required during the term of the FERC License. Additionally, groundwater will be withdrawn during the irrigation season for annual maintenance of the Project Reservoir System water levels, pursuant to the terms and conditions of a final order approving a permanent water right transfer application concurrently filed with this hydroelectric application. Except for the groundwater used for Project construction, all groundwater used in the Project will be used year-round for hydroelectric generation.”

(Application at 3).

That would be unlawful for reasons including, but not limited to, the following:

a) The transfer statutes do not allow change from a groundwater irrigation water right to storage.

ORS 540.520 allows for a transfer of a change in character of use, place of use, or point of diversion. The statutes do not contemplate a change in the method of appropriation. According to the Application, Swan Lake North Hydro LLC is proposing to do just that – transfer a groundwater right to use, in part, for storage. (Application at 3, stating the water would be used in part for “occasional re-fill of the Project Reservoir System” and “annual maintenance of the Project Reservoir System water levels.”)

Changing a groundwater water right for storage does not fit within the allowable statutory construct of changing the character of use. A groundwater right and a storage right refer to the method of appropriation, not use. The G- and R- in the permit codes are not designations of use or place of use. The character of use has to be designated separately in either case; i.e., irrigation, mining, municipal, etc. Storage rights are not the same as ground water rights and cannot be treated as interchangeable under the transfer statutes. A wholly separate section of the Water Code is dedicated to reservoir rights. See ORS 537.400 et al.

There is no authority that allows transfer of the groundwater irrigation certificates for storage uses at Applicant’s proposed major hydroelectric project.

b) The transfer would result in injury to other water users.

The application materials indicate that Swan Lake North Hydro LLC believes it will be able to transfer 420 AF per year under water rights certificates 92375 and 87006 for the “annual maintenance of reservoir levels” after initially filling the lined reservoirs over one or two irrigation seasons with 3,001 AF of water obtained via agreement from the “Edgewood Wells” impacting 1,040.7 irrigated acres under water rights certificates 92375, 29530, and 87006. Even if it were legal (which it is not), allowing Swan Lake North Hydro LLC to implement this scheme would result in injury to other water users. Irrigation practices do not consumptively use 100% of the water. In fact, based on the OWRD’s consumptive use factors for irrigation, it is likely that upwards of 50% of this water is not in fact consumed by the water right holder, but instead is lost to evaporation and/or groundwater recharge/ return flow. In the Klamath River Basin, both surface and groundwater are dramatically over-appropriated. Given the extraordinarily over-appropriated state of water in the Klamath River Basin, any return flows/ groundwater recharge is most certainly used by other water right holders. Thus, allowing appropriation for a reservoir fill and/or evaporation replacement would injure other water rights. The transfer statutes prohibit this. See ORS 540.510.

c) The transfer would result in enlargement.

First, Applicant states “[e]xcept for the groundwater used for Project construction, all groundwater used in the Project will be used year-round for hydroelectric generation.” (Application at 3). That is enlargement because the certificates that Applicant seeks to partially transfer (92375 and 87006) do not authorize “year-round” use, but only use during the irrigation season. Second, it would also be enlargement because use by the hydroelectric project would entail a much higher consumptive use than the irrigation uses.

Because the proposed transfer would result in enlargement, it cannot be approved (ORS 540.510) and cannot provide the source of water the project needs to operate.

4. The Application does not meet the standards for issuance under ORS 543.

Despite the significant amount of water being sought for this project, the Application discounts the effects of its proposed project on the water resources of this state because its proposal is “simply a different use for some of the water that is already pumped” for irrigation. ORS 543.017 governing the development of hydroelectric projects applies whether or not the applicant is seeking a new water right or seeking to transfer an old water right. The statutes set forth strict standards that apply to all new hydroelectric projects. Regardless of any underlying water right proposed for use in the initial fill, annual maintenance, or any other purpose, this is a new hydroelectric project, which is subject to all provisions of ORS 543.

To that end, in addition to conducting a full public interest review of this application under ORS 543.225, the state cannot approve the application unless it meets the rigorous standards of ORS 543.017. For example, ORS 543.017(d) requires that “water quality, wildlife, scenic and aesthetic values, and historic, cultural and archaeological sites, shall be maintained or enhanced” and that “[n]o activity may be approved that, in the judgment of the commission after balancing gains and losses to all affected natural resources, may result in a net loss of natural resources.” To approve the project, the state would also have to determine that the project will not result in a net loss of wild game fish, or in the mortality, injury, or loss of natural habitat of anadromous salmon or steelhead. See ORS 543.017(a) and (c).

Given the over appropriated state of the groundwater resources of this basin, the documented connection to already over appropriated surface flows and the presence of endangered fish species in this basin (including the Lost River and Short-nosed Sucker) and its wildlife, the use of water needed for this project will impair or be detrimental to the public interest and will not meet the requirements of ORS 543.017.

As the OWRD is well aware, groundwater resources in the Klamath Basin, including the Lost River Basin, have undergone serious decline. This has been exacerbated by the 2001, 2010, 2013, 2014, 2015, 2018, and 2020 droughts. (See “Ground-Water Hydrology of the Upper Klamath Basin,” Oregon and California, Scientific Investigations Report 2007-5050, Version 1.1., April 2010, USGS, WRD; see also, *The Oregonian*, “Klamath Basin’s water worries extend to wells,” August 28, 2010, and *Klamath Falls Herald & News*, “Groundwater program is a go,” April 21, 2015.) Heavy well use is also reducing stream flows. *Id.* The total amount of water sought for Swan Lake North Hydro LLC’s project is significant. Both the initial filling of the reservoir and the annual replacement of evaporation will further deplete already declining groundwater, and likely surface water, resources of this basin. Water is not available in the Klamath Basin for this new proposed water use.

In addition to the well-known listed fish species that rely on water in the Klamath Basin, the water resources and landscape of Swan Lake also make it a critical area for migratory birds. USFWS biologists have identified the Swan Lake area as a “high priority” for “waterfowl habitat protection,” noting that the “extensive open-water and wet-meadow complex... is an important area for migrating ducks, geese (cacklers and white-fronts in the spring), swans, and cranes.”² The introduction of a significant construction project adjacent to this area would most certainly impact this waterfowl habitat, resulting in adverse impacts to native wildlife.

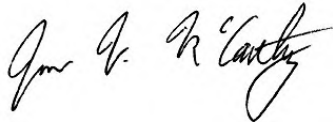
² *Ibid.*

Additionally, the application also does not meet a number of provisions of OAR 690-051 and associated rules (e.g. OAR 690-400, OAR 690-410). Any order needs to clearly explain how OWRD believes the proposed project meets these rules.

Finally, ORS 543.017(d) also requires that historic, cultural, and archaeological sites be maintained or enhanced. We urge the OWRD to consult with any Tribe that may have cultural resources in the project vicinity, including The Klamath Tribes, regarding this requirement and not approve the project if this requirement cannot be fully met. OWRD is required to consult with Tribes on issues including fish, wildlife and cultural resources. (See https://oregon.public.law/rules/oar_690-051-0060.) It is not clear from the available record if this has happened.

Conclusion: For the aforementioned reasons, WaterWatch and Oregon Wild oppose issuance of a permit for this proposed project.

Sincerely,



Jim McCarthy
Southern Oregon Program Director
WaterWatch of Oregon
P.O. Box 261
Ashland, OR 97520
jim@waterwatch.org



Doug Heiken
Conservation and Restoration Coordinator
Oregon Wild
P.O. Box 11648
Eugene, OR 97440
dh@oregonwild.org

From: [GRAINEY Mary S * WRD](#)
To: [bryce.madsen](#)
Cc: ["cheryl Madsen"; "Janet Neuman"; "Erik Steimle"; James.Kinch@hdrinc.com; Janine.kidd@hdrinc.com; FRENCH Dwight W * WRD](#)
Subject: RE: Swan Lake Hydroelectric
Date: Monday, May 04, 2020 8:29:00 AM

Bryce, the proposed order will be issued in regards to water rights. Although the Department is instructed to consider potential impacts to natural resources, the Department is not in the position to decide individual pole placements.

Thank you for your inquiry. -- Mary

Mary S. Grainey P.E., C.W.R.E.
Hydroelectric Program Coordinator
Oregon Water Resources Department
725 Summer St. NE Suite A
Salem, OR 97301
503-986-0833
Mary.s.grainey@oregon.gov

From: bryce madsen <bryce.madsen@ccmanagement.com.sg>
Sent: Saturday, May 02, 2020 10:04 PM
To: GRAINEY Mary S * WRD <Mary.S.Grainey@oregon.gov>
Cc: 'cheryl Madsen' <cmadsen511@gmail.com>; 'Janet Neuman' <janet.neuman@tonkon.com>; 'Erik Steimle' <erik@ryedevelopment.com>; James.Kinch@hdrinc.com; Janine.kidd@hdrinc.com
Subject: RE: Swan Lake Hydroelectric

Hi Mary,

Thanks for your email.

I would like to ask if this filing of protest is in regards to pole placement or in fact just water rights?

Thursday in our meeting with Luke Kinch, it was expressed that this was in regards to water rights only.

Thanks,

Bryce Madsen

CEO, Group
M: +65 9637 2307
Ph: +65 6592 9080
www.ccmanagement.com.sg

Crystal Clear Management Pte Ltd
111 Somerset #04-26
Triple One Somerset
Singapore 238164



From: GRAINEY Mary S * WRD <Mary.S.Grainey@oregon.gov>

Sent: Friday, 1 May 2020 7:56 AM

To: bryce madsen <bryce.madsen@ccmanagement.com.sg>

Cc: 'cheryl Madsen' <cmadsen511@gmail.com>; 'Janet Neuman' <janet.neuman@tonkon.com>; 'Erik Steimle' <erik@ryedevelopment.com>; James.Kinch@hdrinc.com; Janine.kidd@hdrinc.com

Subject: RE: Swan Lake Hydroelectric

Bryce, as I mentioned to you in my last email

“The comment period for the state’s Notice of Ready for Final Review will end May 4, 2020. A proposed final order regarding the project will be issued within a few months of the end of the comment period. There will be a 30 day period to file comments, protests or requests for standing after the proposed final order is issued. The fee to file a protest is \$810. I will include you on any notice of the release of the proposed final order and the due date for comments and protests. “

Here is the link to the rules regarding hydroelectric projects and the standards that must be met in order to receive a state license for the project.

https://secure.sos.state.or.us/oard/displayDivisionRules.action;JSESSIONID_OARD=d3PNczF6TXDe3-W-tz1MOTPqEgYkj9jb2yMNKRtAZkZxSjnaJpBW!246034410?selectedDivision=3156

There is no special form for filing a protest, but the requirements are list under 690-051-0150 as below

Filing of Protest and Remonstrances

(1) All protest and requests for standing must be filed with the Director within the time specified in the notice. To become a party to a contested case hearing the fees required under ORS 536.050(1) (j), (n), and/or (o) as appropriate must also be submitted by the notice date.

(2) Any person may submit a protest against a proposed final order. A protest shall be in writing and shall include:

(a) The name, address and telephone number of the protestant;

(b) A description of the protestant's interest in the proposed final order and, if the protestant claims to represent the public interest, a precise statement of the public interest represented;

(c) A detailed description of how the action proposed in the proposed final order would impair or be detrimental to the protestant's interest;

(d) A detailed description of how the proposed final order is in error or deficient and how to correct the alleged error or deficiency;

(e) Any citation of legal authority supporting the protest, if known; and

(f) For persons other than the applicant, the protest fee required under ORS 536.050.

(3) Any person who supports the proposed final order may request standing for purposes of participating in any contested case proceeding on the proposed final order or for judicial review of a final order. The request for standing must be in writing, signed by the requester, and include the following:

- (a) The requester's name, mailing address and telephone number;
- (b) If the requester is representing a group, association or other organization, the name, address and telephone number of the represented group;
- (c) A statement that the requester supports the proposed final order as issued;
- (d) A detailed statement of how the requester would be harmed if the proposed final order is modified; and
- (e) The fee established under ORS 536.050.

(4) Any person who has filed a timely request for standing may later file a petition for party status in any contested case hearing subsequently held on the matter for which standing was requested, in the manner described in OAR 137-003-0535.

(5) Each person submitting a protest or a request for standing shall raise all reasonably ascertainable issues and submit all reasonably available arguments supporting the person's position by the close of the protest period.

(6) The Department shall send a copy of all protests and requests for standing received to the applicant, the protestant(s), if any, and to each person who requested standing.

A protest is not a protest if no proposed order has been issued by the Department concerning the issue being raised. Today we are still in the comment period under "ready for final review". You might expect a proposed order to be available for review within the next 2 to 3 months.

(e) Once the application issues are resolved, a "ready for final review" notice shall be sent to agencies and interested parties by the Director (comments must be submitted within 60 days of the final review notice);

(f) The Director shall prepare a proposed final order that determines whether the proposed Project together with the recommended measures to protect, mitigate or enhance the natural resources of the State is consistent with the minimum standards of ORS 543.017, and the requirements of OAR 690-051-0160 through 690-051-0290 and whether the Project would impair or be detrimental to the public interest as provided in ORS 543.225. The proposed final order shall also provide findings on whether the proposed project may contribute to cumulative impacts with other existing, proposed or approved hydroelectric projects in the same river basin and whether consolidated review is required under ORS 543.255 and OAR 690-051-0290.

(g) The proposed final order shall be distributed to state and federal agencies, Indian tribes, owners of other proposed, approved or existing hydroelectric projects in the same river basin and other participants. Notice of the proposed final order shall be published in the Department's weekly public notice.

(h) If the Director determines that consolidated review is required, the Department shall refer the matter to the OAH to conduct a contested case hearing only after the period to file protests has passed in order to allow for all issues regarding the proposed project to be addressed in one contested case hearing. Such hearing may be consolidated or bifurcated as the Department directs.

(i) If one or more protests are filed within 30 days after issuance of a proposed final order the Department shall refer the matter to the OAH for a contested case hearing as provided in ORS 543.230(2) and/or 543.255(3). All issues regarding the proposed project may be addressed in one hearing. The hearing may be consolidated or bifurcated as the Department directs. If no protest is filed the Director shall issue a final order consistent with subsection

(l) below.

(j) A proposed order shall be issued by the ALJ after a contested case hearing. Any party to the contested case hearing may file exceptions to the ALJ's proposed order. Exceptions must be filed with the Department within 30 days of the order. If no exceptions are filed to the ALJ's proposed order within 30 days, the Director shall issue a final order consistent with subsection (l) below.

(k) If exceptions are filed to the ALJ's proposed order, the Director shall review/hear argument (written or oral, at his/her discretion) and make the final determination for the final order.

(l) If, after the contested case hearing or, if a hearing is not held, after the close of the period allowed to file a protest, the Director determines that the proposed use does not comply with the minimum standards of ORS 543.017 and the requirements of OAR 690-051-0160 through 690-051-0290 or would otherwise impair or be detrimental to the public interest as provided in ORS 543.225, the Director shall issue a final order rejecting the application or modifying the proposed final order to comply with ORS 543.017 and the public interest. If, after the contested case hearing or, if a hearing is not held, after the close of the period allowed to file a protest, the Director determines that the proposed use would comply with the standards of ORS 543.017 and would not impair or be detrimental to the public interest of ORS 543.225, the Director shall issue a final order approving the application or otherwise modifying the proposed final order. A final order may set forth any of the provisions or restrictions to be included in the permit or final License concerning the use, control and management of the water to be appropriated for the project, including, but not limited to, a specification of reservoir operation and minimum releases to protect the public interest.

(m) If the project is approved a Permit or final License shall then be issued per OAR 690-051-0095(4).

As you are making progress speaking with the project developer on the location of the powerlines I will not be participating in today's zoom call.

I hope that the issue can be resolved among yourselves.

-- Mary Graine

Mary S. Graine P.E., C.W.R.E.
Hydroelectric Program Coordinator
Oregon Water Resources Department
725 Summer St. NE Suite A
Salem, OR 97301
503-986-0833
Mary.s.graine@oregon.gov

From: bryce madsen <bryce.madsen@ccmanagement.com.sg>

Sent: Wednesday, April 29, 2020 11:24 PM

To: GRAINEY Mary S * WRD <Mary.S.Graine@oregon.gov>

Cc: 'cheryl Madsen' <cmadsen511@gmail.com>; 'Janet Neuman' <janet.neuman@tonkon.com>; 'Erik Steimle'

<erik@ryedevelopment.com>; James.Kinch@hdrinc.com; Janine.kidd@hdrinc.com

Subject: RE: Swan Lake Hydroelectric

Dear Mary,

As I stated below and again received **no** response from you your colleagues or any one regarding my below questions and statement, please again let me know how to do the need as stated clearly below.

Please find a letter stating how this project has gone and a request that we have regarding this project.

Feel free to contact me via email and would be happy to set up a video conference ie Zoom or Skype with all to find a solution to this matter.

Regards,

Bryce Madsen

CEO, Group

M: +65 9637 2307

Ph:+65 6592 9080

www.ccmanagement.com.sg

Crystal Clear Management Pte Ltd

111 Somerset #04-26

Triple One Somerset

Singapore 238164



From: bryce.madsen@ccmanagement.com.sg <bryce.madsen@ccmanagement.com.sg>

Sent: Wednesday, 22 April 2020 7:54 AM

To: GRAINEY Mary S * WRD <Mary.S.Grainey@oregon.gov>

Cc: cheryl Madsen <cmadsen511@gmail.com>; Janet Neuman <janet.neuman@tonkon.com>; Erik Steimle (erik@ryedevelopment.com) <erik@ryedevelopment.com>

Subject: Re: Swan Lake Hydroelectric

Hi Mary,

I am surprised by your message giving only legal statements and doubts which generally either scare off or have the opposite party reciprocate.

Your statement of giving options is incorrect. You do not give options but tell me that there are non.

I have asked you to help in regards to making the adjustments in loss in the land value. I am not asking you to go somewhere else as I can assume that would be impossible.

We are willing to pay the 800.00 + fee and will file a protest. Please send the process to file and I will have my legal team draft required to be heard.

Also as you were sending the mail to the wrong address before, please ensure you strive to send the information now to the correct address and also send via the email addresses attached to ensure our quick response.

Regards,

Bryce Madsen

CEO, Group

M [+65 9637 2307](tel:+6596372307)

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Crystal Clear Management Pte Ltd

Regency House #04-12/13

123 Penang Road

Singapore 238465

On 22 Apr 2020, at 6:13 AM, GRAINEY Mary S * WRD <Mary.S.Grainey@oregon.gov> wrote:

Dear Bryce, I am sorry that my options to assist you are limited.

It is my understanding that the property that we are discussing is at Township 39 South, Range 11 East, Section 19, Tax Lot 2100, which is in Klamath County, along the Lost River, immediately across the highway to the North and East of the Harpold Dam. It is also my understanding that having received a license from the Federal Energy Regulatory Commission (FERC) that Swan Lake North Hydro LLC has obtained right-of-way agreements with U.S. Bureau of Reclamation and U.S. Bureau of Land Management to access federal government lands for the power lines.

Although FERC recognizes the state's authority to issue and protect state water rights, it asserts its own authority to regulate other aspects of hydroelectric projects, therefore I doubt that I can offer you any satisfactory options for the location of transmission lines. Six different routes were considered for the transmission lines and this route was the preferred option used for FERC's environmental impact study. Only by negotiations directly between you and Swan Lake North Hydro LLC can changes be made to pole locations that may directly impact your lands.

The comment period for the state's Notice of Ready for Final Review will end May 4, 2020. A proposed final order regarding the project will be issued within a few months of the end of the comment period. There will be a 30 day period to file comments, protests or requests for standing after the proposed final order is issued. The fee to file a protest is \$810. I will include you on any notice of the release of the proposed final order and the due date for comments and protests.

Thank you for your attention to these matters. -- Mary

Mary S. Grainey P.E., C.W.R.E.
Hydroelectric Program Coordinator
Oregon Water Resources Department
725 Summer St. NE Suite A
Salem, OR 97301
503-986-0833
Mary.s.grainey@oregon.gov

From: bryce madsen <bryce.madsen@ccmanagement.com.sg>
Sent: Friday, April 17, 2020 5:52 PM
To: GRAINEY Mary S * WRD <Mary.S.Grainey@oregon.gov>
Cc: cheryl Madsen <cmadsen511@gmail.com>; Janet Neuman <janet.neuman@tonkon.com>; Erik Steimle (erik@ryedevelopment.com) <erik@ryedevelopment.com>
Subject: Re: Swan Lake Hydroelectric

Dear Mary,

Thanks for your email to my mom.

As you know my parents are very frustrated in regards to the placement of these poles and lines in regards to degrading the value of their land. It is not a matter of question, but fact that if the lines are seen from their property, the property price will go down and result in the land being even impossible to sell.

Further more, even trying to sell now before the project starts, with the land being talked about as having the lines running over or next to the property, devalues the land as by law we have to disclose that fact. To put it clearly and to say again, the land is worth much less or is unsellable with the project just being discussed and talked about.

Looking through my moms email, I hope you can grasp the reason for her frustration is due to the fact that her retirement is connected to this property.

I am happy to set up a Zoom or Skype call or phone call with you and your team to discuss this thing face to face and understand all our options. Being based in your home office should not slow down a face to face discussion with today's modern technology. Just understand that I live in Singapore (South East Asia) so it would need to be an afternoon call for you.

I am sure land devaluation is something that you are looking to avoid and there must be remedies to solve this issue.

Thanks and Regards,

Bryce Madsen
Managing Director
M [+65 9637 2307](tel:+6596372307)
www.ccmanagement.com.sg

Crystal Clear Management Pte Ltd

Regency House #04-12/13
[123 Penang Road](#)
[Singapore 238465](#)

On 17 Apr 2020, at 11:45 PM, GRAINEY Mary S * WRD
<Mary.S.Grainey@oregon.gov> wrote:

Dear Cheryl, Thank you for writing to me. I am sorry about the loss of your sister.

This is the link that should allow you to see the application materials for the Swan Lake Project.

<http://filepickup.wrd.state.or.us/files/Uploads/Swan%20Lake%20North%20Hydroelectric/>

The detailed information that you need to discuss the location of the transmission poles will have to be from the company.

There are many discussions and decisions that must be made with multiple landowners before final determination of pole locations can be made. I am forwarding your message to Janet Neuman, attorney and Erik Steimle, representative for Swan Lake North Hydro LLC.

The address that we have for you is

Douglas D and Cheryl L Madsen

13411 HRICZISCSE RD

BONANZA, OR 97623

This matches a tax lot record from Klamath county. If you would like to update that for us, please do.

Many staff, myself included are working from home now because of the corona virus situation. We will continue to answer emails and phone calls as best we can. Again, thank you for writing and I hope this leads to a satisfactory resolution for you. -- Mary

Mary S. Grainey P.E., C.W.R.E.

Hydroelectric Program Coordinator

Oregon Water Resources Department

725 Summer St. NE Suite A

Salem, OR 97301

503-986-0833

Mary.s.grainey@oregon.gov

-----Original Message-----

From: cheryl Madsen <cmadsen511@gmail.com>

Sent: Friday, April 17, 2020 7:46 AM

To: GRAINEY Mary S * WRD <Mary.S.Grainey@oregon.gov>

Subject: Swan Lake Hydroelectric

I cannot download the updated mitigation plans at the link you said in your notice. We were unable to come to the meeting because of my sister's illness and death.

We have had nothing but problems with communication with this project. First they never sent us notifications of anything until I contacted our Congressman, Greg Walden. Then they said they had sent us information; but when we looked into it, the information had been sent to the property owner next to our property with our name and a previous owner of that property's name on it. I have no idea how they thought that would get to us!

We have sent letters stating our concerns with the devaluation of our property as a building site. We met with them last summer and they were supposed to get back to us in August. They never did. Then we were sent a Right of Entry

we were supposed to sign. Of course I was concerned and called them. They were supposed to call me back to meet at the property, but never did. I never signed the right of entry and told them I wouldn't without their showing me where these lines were going.

Now this!

I and my husband are in our 70's and are tired of trying to fight this. So I am sending copies of these communications to my son who lives and owns a business in Singapore to see if he can help us, although he has enough problems right now dealing with Coronavirus in all the countries he deals with. His name is Bryce Madsen and he has our permission to speak with you on our behalf if he contacts you.

Sincerely,
Cheryl Madsen

CC: bryce.madsen@ccmanagement.com.sg

Sent from my iPhone

Bryce Madsen (son and representative of Douglas and Cheryl Madsen)
Douglas D. and Cheryl L. Madsen
13411 Hricziscse Road
Bonanza, Oregon 97623

April 30, 2020

Federal Energy Regulatory Commission
Office of Energy Projects
Division of Hydropower Licensing
888 First Street, NE
Washington, D. C. 20426

Mary S. Graineey P.E., C.W.R.E.
Hydroelectric Program Coordinator
Oregon Water Resources Department
725 Summer St. NE Suite A
Salem, OR 97301
503-986-0833

Erik Steimle
Vice President
220 NW 8th Ave
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erik@ryedevelopment.com

Janine Kidd, SR/WA
Right of Way Agent
Phone: 503.316.5526
Mobile: 503.302.0393
Email: Janine.kidd@hdrinc.com

Luke Kinch, RWA
D 503.316.5515
M 503.428.7101
Email: James.Kinch@hdrinc.com
hdrinc.com/follow-us

Project Concerning:
Swan Lake North Pumped Storage Project—FERC Project No. 13318-003/OREGON-

Land parcel the project is affecting:
REAL PROPERTY DESCRIPTION: CODE: 028 PCL: 400, MAP: 3911-01900-02100, ACRES: 3.25
TAX LOT: 2100

Included to this letter is attached Appendixes A and B below for references to the below letter.

Douglas and Cheryl Madsen: Comment-Notice of Ready for Final Review 30/04/20 prior to review notice:

Dear All above in this Document,

First please see above all parties that Douglas and Cheryl Madsen have been dealing with and the confusion that has been created through this process. (see attached appendix B)

One person would be the contact person while somebody else would come in, asking for information then others would step in and leave while all the while becoming uncontactable and would disappear from the process. All of this, without any formal notice of change or notice of who is in charge and who should be the main point of contact. (see attached appendix B)

After all of this, the above listed parties would state that information was sent, then later it would admitted that it was sent to the wrong address (even when Douglas and Cheryl's correct address has been listed on web site and the details of Douglas and Cheryl have never changed from the start of the project). To say the least this has been a very unprofessional process. (see attached appendix B)

Disapproval of the line placement regarding the stated above land parcel:

Douglas and Cheryl Madsen and their representatives have repeatedly stated in person and through letter and email that they do not approve of the positions of the Lines for this project going across or near to their property.

Reason:

The reason for this disapproval is due to the fact that “public informed” lines coming near the property that is a future building site drops the value of the property.

We would like to note that if the Madsen’s tried to sell the land now, we would not be able to get the value out of our land due to the association of this project to the lines and the stated project. Furthermore, by law we would need to disclose the fact that the lines would potentially be seen and going through the area which again devalues the land value.

As this land is part of Douglas and Cheryl’s retirement, I can not express the way that this has impacted lifestyle financially due to it being part of their retirement plan and the stress and emotional impact this has on two 70-year-old adults.

Way Forward:

We would like to request compensation for the lands devaluation, time taken to discuss emailing and understand the communications process for the project and the emotional toll this has taken on Douglas and Cheryl due to the huge financial impact to them.

We would like all to note that this land is prime buildable land considering the location from Klamath Falls and Bonanza, the access and panoramic view to the river, the sound of the water going over the damn, location to BLM and the view that a house could have built in the many sites with little excavation costs. (See Appendix A below)

Please help to be very clear the next step required for us and the action we need and your are taking accordingly? Please also point us to the person that is a decision maker and is our point of contact to finalize this process?

Please feel free to contact me at my email address bryce.madsen@ccmanagement.com.sg and would be happy to have a Zoom Call to discuss options and a way for ward for Douglas and Cheryl Madsen.

Thanks and Best Regards,

Bryce Madsen (Son and Representative for Mr Douglas and Cheryl Madsen)

Appendix A.**Photos demonstrating of the views this land offers for potential home sites:**



Photos showing the soil and the nice flat building areas:



Appendix B:

Communications regarding this project from the Madsen's in October 2018:

Douglas D. and Cheryl L. Madsen
13411 Hricziscse Road
Bonanza, Oregon 97623

October 29, 2018

Federal Energy Regulatory Commission
Office of Energy Projects
Division of Hydropower Licensing
888 First Street, NE
Washington, D. C. 20426

Dear Sir or Madam:

We recently obtained the Environmental Impact Statement for the Hydropower License for the Swan Lake North Pumped Storage Project—FERC Project No. 13318-003/OREGON and were very upset to find that the final proposed site would negatively affect our 3.2 acre home site immediately south of Harpold Dam and directly in line with the power line river crossing:

REAL PROPERTY DESCRIPTION:
CODE: 028 PCL: 400
MAP: 3911-01900-02100
ACRES: 3.25
TAX LOT: 2100

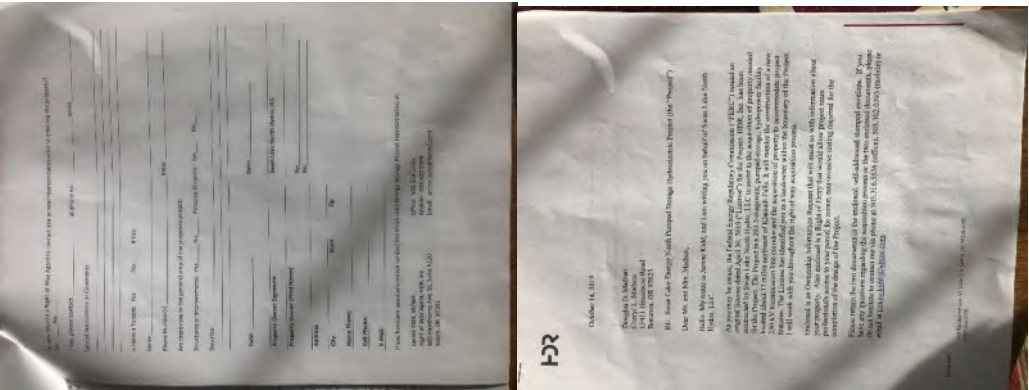
This property and the house and land next to it were owned by us until 2004, when we had to move to Langell Valley to care for my aging parents. We sold the home and property, but retained the 3.25 acres as a future building site or investment property. We knew that its location on a hillside with a beautiful view of both valleys and Lost River would make it a wonderful retirement homesite that would increase in value over the years. Now the proposed power line river crossing will destroy our future plans and the value of our property. The aesthetic value will be totally compromised with views of power lines surrounding the site. While it's hard to tell exactly where the power line will go according to the EIS; it appears to be within 300 feet of our chosen site, which is within the EMF range. The health risks to pets and grandchildren would always be there.

We ask that you take our concerns into consideration.

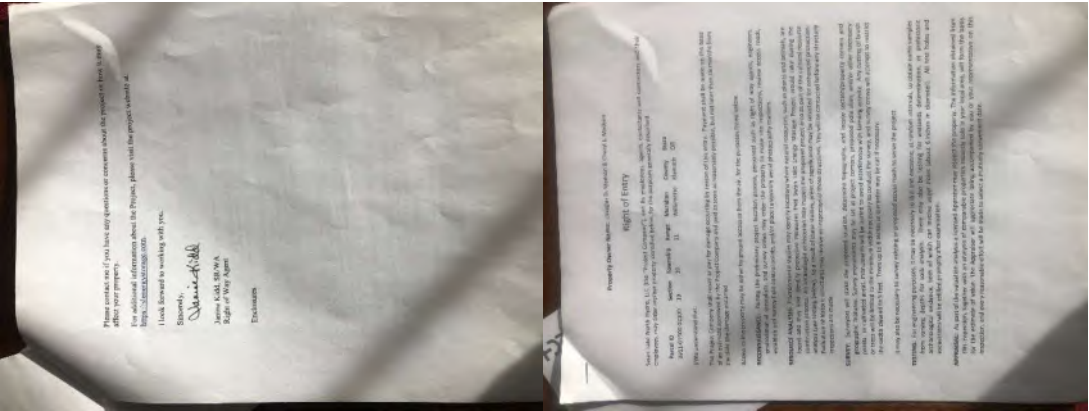
Sincerely,

Douglas D. and Cheryl L. Madsen

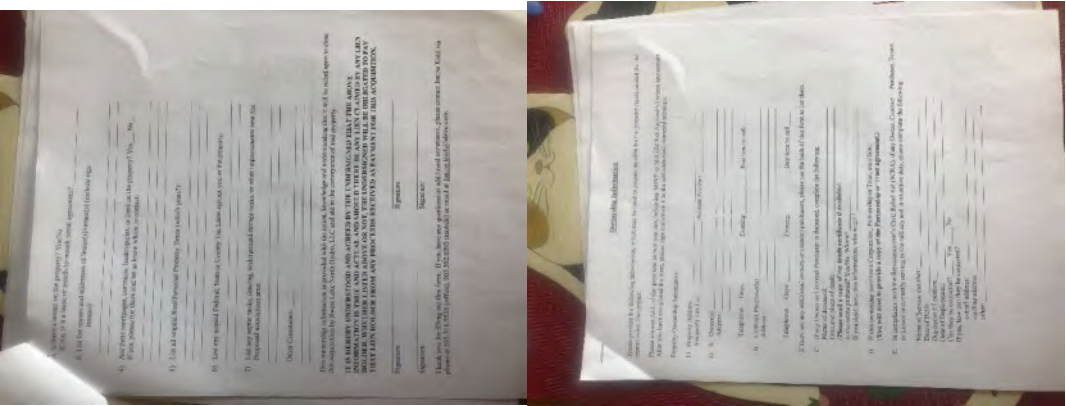
Communications regarding the project and information which was and is clear that all information has been received previously leading to confusion:



Request for Right of Entry which: Madsen's did not allow due to the reasons stated in the document and unclear and seem to be to attempt to devalue the land not to give a correct value:



Requesting owners information when all was given and filed and is in county records as stated that was received in correspondence. Again, adding to confusion:



See attached PDF copy of emails from the following people dealing with this project:

Further more, even trying to sell now before the project starts, with the land being talked about as having the lines running over or next to the property, devalues the land as by law we have to disclose that fact. To put it clearly and to say again, the land is worth much less or is unsellable with the project just being discussed and talked about.

Looking through my moms email, I hope you can grasp the reason for her frustration is due to the fact that her retirement is connected to this property.

I am happy to set up a Zoom or Skype call or phone call with you and your team to discuss this thing face to face and understand all our options. Being based in your home office should not slow down a face to face discussion with today's modern technology. Just understand that I live in Singapore (South East Asia) so it would need to be an afternoon call for you.

I am sure land devaluation is something that you are looking to avoid and there must be remedies to solve this issue.

Thanks and Regards,

Bryce Madsen
Managing Director
M +65 9637 2307
www.ccmanagement.com.sg

Crystal Clear Management Pte Ltd

Regency House #04-12/13
123 Penang Road
Singapore 238465

On 17 Apr 2020, at 11:45 PM, GRAINEY Mary S * WRD <Mary.S.Grainev@oregon.gov> wrote:

Dear Cheryl, Thank you for writing to me. I am sorry about the loss of your sister.

This is the link that should allow you to see the application materials for the Swan Lake Project.
<http://filepickup.wrd.state.or.us/files/Uploads/Swan%20Lake%20North%20Hydroelectric/>

The detailed information that you need to discuss the location of the transmission poles will have to be from the company.

There are many discussions and decisions that must be made with multiple landowners before final determination of pole locations can be made. I am forwarding your message to Janet Neuman, attorney and Erik Steimle, representative for Swan Lake North Hydro LLC.

The address that we have for you is
Douglas D and Cheryl L Madsen
13411 HRICZISCSE RD
BONANZA, OR 97623

This matches a tax lot record from Klamath county. If you would like to update that for us, please do.

Many staff, myself included are working from home now because of the corona virus

bryce.madsen@ccmanagement.com.sg

From: GRAINEY Mary S * WRD <Mary.S.Grainey@oregon.gov>
Sent: Wednesday, 22 April 2020 6:14 AM
To: bryce madsen
Cc: cheryl Madsen; Janet Neuman; Erik Steimle (erik@ryedevelopment.com)
Subject: RE: Swan Lake Hydroelectric

Dear Bryce, I am sorry that my options to assist you are limited.

It is my understanding that the property that we are discussing is at Township 39 South, Range 11 East, Section 19, Tax Lot 2100, which is in Klamath County, along the Lost River, immediately across the highway to the North and East of the Harpold Dam. It is also my understanding that having received a license from the Federal Energy Regulatory Commission (FERC) that Swan Lake North Hydro LLC has obtained right-of-way agreements with U.S. Bureau of Reclamation and U.S. Bureau of Land Management to access federal government lands for the power lines.

Although FERC recognizes the state's authority to issue and protect state water rights, it asserts its own authority to regulate other aspects of hydroelectric projects, therefore I doubt that I can offer you any satisfactory options for the location of transmission lines. Six different routes were considered for the transmission lines and this route was the preferred option used for FERC's environmental impact study. Only by negotiations directly between you and Swan Lake North Hydro LLC can changes be made to pole locations that may directly impact your lands.

The comment period for the state's Notice of Ready for Final Review will end May 4, 2020. A proposed final order regarding the project will be issued within a few months of the end of the comment period. There will be a 30 day period to file comments, protests or requests for standing after the proposed final order is issued. The fee to file a protest is \$810. I will include you on any notice of the release of the proposed final order and the due date for comments and protests.

Thank you for your attention to these matters. -- Mary

Mary S. Grainey P.E., C.W.R.E.
Hydroelectric Program Coordinator
Oregon Water Resources Department
725 Summer St. NE Suite A
Salem, OR 97301
503-986-0833
Mary.s.grainey@oregon.gov

From: bryce madsen <bryce.madsen@ccmanagement.com.sg>
Sent: Friday, April 17, 2020 5:52 PM
To: GRAINEY Mary S * WRD <Mary.S.Grainey@oregon.gov>
Cc: cheryl Madsen <cmadsen511@gmail.com>; Janet Neuman <janet.neuman@tonkon.com>; Erik Steimle (erik@ryedevelopment.com) <erik@ryedevelopment.com>
Subject: Re: Swan Lake Hydroelectric

Dear Mary,

Thanks for your email to my mom.

As you know my parents are very frustrated in regards to the placement of these poles and lines in regards to degrading the value of their land. It is not a matter of question, but fact that if the lines are seen from their property, the property price will go down and result in the land being even impossible to sell.

situation. We will continue to answer emails and phone calls as best we can. Again, thank you for writing and I hope this leads to a satisfactory resolution for you. -- Mary

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Hydroelectric Program Coordinator
Oregon Water Resources Department
725 Summer St. NE Suite A
Salem, OR 97301
503-986-0833
Mary.s.grainey@oregon.gov

-----Original Message-----

From: cheryl Madsen <cmadsen511@gmail.com>
Sent: Friday, April 17, 2020 7:46 AM
To: GRAINEY Mary S * WRD <Mary.S.Grainey@oregon.gov>
Subject: Swan Lake Hydroelectric

I cannot download the updated mitigation plans at the link you said in your notice. We were unable to come to the meeting because of my sister's illness and death.

We have had nothing but problems with communication with this project. First they never sent us notifications of anything until I contacted our Congressman, Greg Walden. Then they said they had sent us information; but when we looked into it, the information had been sent to the property owner next to our property with our name and a previous owner of that property's name on it. I have no idea how they thought that would get to us!

We have sent letters stating our concerns with the devaluation of our property as a building site. We met with them last summer and they were supposed to get back to us in August. They never did. Then we were sent a Right of Entry we were supposed to sign. Of course I was concerned and called them. They were supposed to call me back to meet at the property, but never did. I never signed the right of entry and told them I wouldn't without their showing me where these lines were going.

Now this!

I and my husband are in our 70's and are tired of trying to fight this. So I am sending copies of these communications to my son who lives and owns a business in Singapore to see if he can help us, although he has enough problems right now dealing with Coronavirus in all the countries he deals with. His name is Bryce Madsen and he has our permission to speak with you on our behalf if he contacts you.

Sincerely,
Cheryl Madsen

CC: bryce.madsen@ccmanagement.com.sg

Sent from my iPhone

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CC: bryce.madsen@ccmanagement.com.sg

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Bryce Madsen
Managing Director
M +65 9637 2307
www.ccmanagement.com.sg

Crystal Clear Management Pte Ltd

Regency House #04-12/13
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Singapore 238465

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The address that we have for you is
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13411 HRICZISCSE RD
BONANZA, OR 97623
This matches a tax lot record from Klamath county. If you would like to update that for us, please do.

Many staff, myself included are working from home now because of the corona virus

Correspondence with Erik Steimly admitting that he sent the mail to the wrong mail address even after the fact that all the Madsen information is correct in the system. Again, creating confusion and not allowing the Madsen's to communicate properly regarding their objection to this project:

OK let's plan on meeting after your appointment. I will be staying at the Holiday Inn Express in Klamath Falls. There is a small conference space there where we can meet unless there is somewhere else you would prefer.

(Quoted text hidden)

Cheryl Madsen <cmadsen511@gmail.com> Mon, Jun 17, 2019 at 6:46 PM
To: Erik Steimle <erik@ryedevelopment.com>

That's fine. Thank you.

Sent from my iPhone
(Quoted text hidden)

Yes.

Sent from my iPhone

On Jun 10, 2019, at 6:30 AM, Erik Steimle <erik@ryedevelopment.com> wrote:

Understood.

Thank you for the email. Would your schedule allow for a meeting with us sometime during the days of July 10-12th?

Sincerely,

Erik Steimle

<image001.png>

(Quoted text hidden)

Erik Steimle <erik@ryedevelopment.com> Wed, Jun 12, 2019 at 2:55 PM
To: Cheryl Madsen <cmadsen511@gmail.com>

I have availability on the 11th. Would you prefer to meet in Klamath Falls or in Bonanza?

(Quoted text hidden)

Cheryl Madsen <cmadsen511@gmail.com> Fri, Jun 14, 2019 at 8:22 AM
To: Erik Steimle <erik@ryedevelopment.com>

Probably Klamath...I have an appointment in Klamath at 2:00.

Sent from my iPhone
(Quoted text hidden)

Erik Steimle <erik@ryedevelopment.com> Fri, Jun 14, 2019 at 2:48 PM
To: Cheryl Madsen <cmadsen511@gmail.com>

Erik Steimle

Erik Steimle

Vice President

220 NW 8th Ave

Portland, OR 97209

(503) 998-0230

erik@ryedevelopment.com

www.ryedevelopment.com

[Quoted text hidden]

cheryl Madsen <cmadsen511@gmail.com>
To: Bryce Madsen <madsen6111@gmail.com>

Tue, Jun 11, 2019 at 8:08 AM

Sent from my iPhone

Begin forwarded message:

[Quoted text hidden]

cheryl Madsen <cmadsen511@gmail.com>
To: Erik Steimle <erik@ryedevelopment.com>

Tue, Jun 11, 2019 at 6:47 PM

<[image001.png](#)>

[Quoted text hidden]

Erik Steimle <erik@ryedevelopment.com>
To: cheryl Madsen <cmadsen511@gmail.com>

Thu, Jun 6, 2019 at 11:41 AM

US Postal Service Certified Mail.

Erik

[Quoted text hidden]

cheryl Madsen <cmadsen511@gmail.com>
To: Erik Steimle <erik@ryedevelopment.com>

Sat, Jun 8, 2019 at 3:21 PM

Dear Mr. Steimle,
After looking at the map and seeing what a large right of way you have over our 3.25 acre property, it looks like the dream of a beautiful home site has been destroyed. So may we suggest you make us an offer on the property that would allow us to invest elsewhere.
Sincerely,
Douglas and Cheryl Madsen

Sent from my iPhone

[Quoted text hidden]

Erik Steimle <erik@ryedevelopment.com>
To: cheryl Madsen <cmadsen511@gmail.com>

Mon, Jun 10, 2019 at 6:30 AM

Understood.

Thank you for the email. Would your schedule allow for a meeting with us sometime during the days of July 10-12th?

Sincerely,

I am looking into why that letter was never delivered to us and probably to the Hickman's since I don't think they own the property at that address either. I have the tracking number. Is it UPS, Fed Ex or USPS. I wonder who signed for it. We have not had that address for 16 years.

Sincerely,

Cheryl Madsen

On Wed, Jun 5, 2019 at 8:25 PM Erik Steimle <erik@ryedevelopment.com> wrote:

From: Erik Steimle
Sent: Monday, June 3, 2019 10:33 AM
To: Cmad511@gmail.com
Cc: Nathan.Sandvig@nationalgrid.com
Subject: Invitation to June 5, 2019 meeting to discuss the Swan Lake Energy Storage Project

Good morning Mr. and Ms. Madsen,

I received a message that you had not received a letter inviting you to a landowner meeting on June 5, 2019 to discuss the Swan Lake Energy Storage Project. I have attached an electronic copy of the letter and map that the USPS indicates was delivered to you on Saturday June 1, 2019. Please feel free to contact me directly if you have any questions.

Sincerely,

Erik Steimle

Sincerely,

Erik Steimle

[Quoted text hidden]

Cheryl Madsen <cmads511@gmail.com> Thu, Jun 6, 2019 at 11:23 AM
To: Erik Steimle <erik@ryedevelopment.com>

Thank you very much. Which mail service did you use?

Sent from my iPhone

On Jun 6, 2019, at 8:10 AM, Erik Steimle <erik@ryedevelopment.com> wrote:

Good morning Cheryl,

We have updated our records with the following address: 13411 Hriczisce Road, Bonanza Oregon.

Sincerely,

Erik Steimle

From: Cheryl Madsen <cmads511@gmail.com>
Sent: Thursday, June 6, 2019 8:03 AM
To: Erik Steimle <erik@ryedevelopment.com>
Subject: Re: Invitation to June 5, 2019 meeting to discuss the Swan Lake Energy Storage Project

Dear Mr. Steimle,

Vice President

220 NW 8th Ave

Portland, OR 97209


(503) 998-0230

erik@ryedevelopment.com

www.ryedevelopment.com

2 attachments

 **Madsen Landowner Letter.pdf**
2917K

 **Madsen proof of mailing.pdf**
179K

cheryl Madsen <cmadsen511@gmail.com> Thu, Jun 6, 2019 at 8:02 AM
To: Erik Steimle <erik@ryedevelopment.com>

Dear Mr. Steimle,

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[Quoted text hidden]

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To: cheryl Madsen <cmadsen511@gmail.com>

Good morning Cheryl,

We have updated our records with the following address: 13411 Hriczisce Road,
Bonanza Oregon.

Invitation to June 5, 2019 meeting to discuss the Swan Lake Energy Storage Project

13 messages

Erik Steimle <erik@ryedevelopment.com> Wed, Jun 5, 2019 at 8:25 PM
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Sent: Monday, June 3, 2019 10:33 AM

To: Cmadsen511@gmail.com

Cc: Nathan.Sandvig@nationalgrid.com

Subject: Invitation to June 5, 2019 meeting to discuss the Swan Lake Energy Storage Project

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OREGON WATER RESOURCES DEPARTMENT

Proposed Final Order on the Swan Lake North Hydro LLC Pumped Storage Hydroelectric Project HE 617



TABLE OF CONTENTS

Page

I. STATE POLICY AND STANDARDS FOR NEW HYDROELECTRIC PROJECTS.....	3
II. APPLICATION HISTORY.....	6
III. PROJECT DESCRIPTION.....	8
A. OVERVIEW OF PROPOSED PROJECT	8
B. NEW PROPOSED RESERVOIRS.....	9
C. PENSTOCK AND POWERHOUSE	9
D. EXISTING WELLS	10
E. TRANSMISSION LINE	10
F. ROADS AND LAYDOWN AREAS	10
G. RESERVOIR FILL AND OPERATIONS PLANS.....	10
IV. EXISTING, APPROVED AND PROPOSED PROJECTS	12
V. MITIGATION MEASURES	13
A. FERC LICENSE ARTICLE 401. <i>RESERVOIR WATER QUALITY MONITORING PLAN</i>	13
B. FERC LICENSE ARTICLE 402. <i>HAZARDOUS SUBSTANCES SPILL PREVENTION AND CLEANUP PLAN</i>	13
C. FERC LICENSE ARTICLE 403. <i>WILDLIFE HABITAT RESTORATION AND ENHANCEMENT PLAN</i>	13
D. FERC LICENSE ARTICLE 404. <i>REVEGETATION AND NOXIOUS WEED MANAGEMENT PLAN</i>	13
E. FERC LICENSE ARTICLE 405. <i>AVIAN PROTECTION PLAN</i>	13
F. FERC LICENSE ARTICLE 407. <i>UNGULATE PROTECTION PLAN</i>	13
G. FERC LICENSE ARTICLE 408. <i>SENSITIVE PLANT SURVEY PLAN</i>	13
H. FERC LICENSE ARTICLE 412. <i>FIRE PREVENTION PLAN</i>	13
I. FERC LICENSE ARTICLE 417. <i>PROGRAMMATIC AGREEMENT AND HISTORIC PROPERTIES MANAGEMENT PLAN</i>	13
J. FERC LICENSE ARTICLE 306. <i>PUBLIC SAFETY PLAN</i>	13
VI. WATER RESOURCES MITIGATION PLAN	13
VII. RESOURCE STANDARDS.....	13
A. PROTECTION OF DESIGNATED RESOURCE AREAS AND SPECIAL MANAGEMENT AREAS (OAR 690-051-0170)	14
B. MITIGATION, NO NET LOSS (OAR 690-051-0180).....	14
C. WATER RESOURCES (OAR 690-051-0190)	14
D. FISH RESOURCES (OAR 690-051-0200).....	14
E. WILDLIFE (OAR 690-051-0210)	14
F. PLANT LIFE (OAR 690-051-0220).....	14
G. RECREATION (OAR 690-051-0230).....	14
H. HISTORIC, CULTURAL, AND ARCHAEOLOGICAL RESOURCES (OAR 690-051-0240).....	14
I. LAND RESOURCES (OAR 690-051-0250)	14
J. LAND USE (690-051-0260).....	14
K. NEED FOR POWER (690-051-0280).....	14
L. CONSOLIDATED REVIEW (690-051-0290)	17
VIII. PUBLIC INTEREST DETERMINATION ORS 543.225(3).....	17
ORS 543.017 MINIMUM STANDARDS.....	17
IX. SUMMARY.....	17
X. PROPOSED CONCLUSIONS OF LAW	17
XI. PROPOSED ORDER	17
XII. PROTESTS.....	17

BEFORE THE OREGON WATER RESOURCES DEPARTMENT

Hydroelectric Application HE 617)	Proposed Findings of Fact
Swan Lake North Hydro, LLC, Applicant)	and
)	Proposed Order
County of Klamath)	

This matter comes before the Department on application of Swan Lake North Hydro, LLC (Applicant) for a major pumped storage hydroelectric project. The issue before the Director is whether the proposed Project together with the recommended measures to protect, mitigate or enhance the natural resources of the State are sufficient to meet the standards of ORS 543.017, 543.225, 543.255 and OAR 690-051-0160 through 690-051-0290.

This order presents proposed findings of fact and conclusions of law to find that the public interest standards of ORS 543.017, 543.225 and OAR 690-051-0160 through 690-051-0290 have been met with regards to the proposed Project. The order also provides findings that there are no other existing, proposed or approved hydroelectric projects in the Swan Lake or Lost River basins therefore, there is no potential for cumulative impacts and no consolidated review is required under ORS 543.255 and OAR 690-051-0290. Accordingly, the Department proposes ...

I. STATE POLICY AND STANDARDS FOR NEW HYDROELECTRIC PROJECTS

ORS Chapter 543.010(2) defines a hydroelectric project as:

“Project” means a complete unit, improvement or development. It includes, among other things, power houses, water wheels, conduits or pipes, dams and appurtenant works and structures, storage, diverting or forebay reservoirs connected therewith, and primary lines transmitting power to the point of junction with a distributing system, or with any interconnected primary system, miscellaneous works and structures used in connection with the unit or any part thereof, rights of way, lands, flowage rights and all other properties, rights and structures necessary or appropriate in the use, operation and maintenance of any such unit.”

ORS 543.015 declares that it is the policy of the State of Oregon:

- “(1) To protect the natural resources of this state from possible adverse impacts caused by the use of the waters of this state for the development of hydroelectric power.
- (2) To permit siting of hydroelectric projects subject to strict standards established to protect the natural resources of Oregon.
- (3) To require the Water Resources Commission, the Energy Facility Siting Council, the Department of Environmental Quality and other affected state agencies to

participate to the fullest extent in any local, state or federal proceedings related to hydroelectric power development in order to protect the natural resources of Oregon.”

ORS 543.017 sets minimum standards to apply to any action of the Water Resources Commission relating to the development of hydroelectric power and public interest considerations.

“(1) In order to carry out the policy set forth in ORS 543.015, the following minimum standards shall apply to any action of the Water Resources Commission relating to the development of hydroelectric power in Oregon:

(a) The anadromous salmon and steelhead resources of Oregon shall be preserved. The commission shall not approve activity that may result in mortality or injury to anadromous salmon and steelhead resources or loss of natural habitat of any anadromous salmon and steelhead resources except when an applicant proposes to modify an existing facility or project in such a manner that can be shown to restore, enhance or improve anadromous fish populations within that river system.

(b) Any activity related to hydroelectric development shall be consistent with the provisions of the Columbia River Basin Fish and Wildlife Program providing for the protection, mitigation and enhancement of the fish and wildlife resources of the region as adopted by the Pacific Northwest Electric Power and Conservation Planning Council pursuant to Public Law 96-501.

(c) Except as provided in this paragraph, no activity may be approved that results in a net loss of wild game fish or recreational opportunities. If a proposed activity may result in a net loss of any of the above resources, the commission may allow mitigation if the commission finds the proposed mitigation in the project vicinity is acceptable. Proposed mitigation that may result in a wild game fish population, or the fishery the wild game fish population provides, being converted to a hatchery dependent resource is not acceptable mitigation. A water dependent recreational opportunity must be mitigated by another water dependent recreational opportunity. Mitigation of water dependent recreational opportunities that, in the judgment of the commission, are of statewide significance with a recreational opportunity that is readily available on other waters of this state is not acceptable mitigation. In deciding whether mitigation is acceptable, the commission shall consult with other local, state and federal agencies.

(d) Other natural resources in the project vicinity, including water quality, wildlife, scenic and aesthetic values, and historic, cultural and archaeological sites, shall be maintained or enhanced. No activity may be approved that, in the judgment of the commission after balancing gains and losses to all affected natural resources, may result in a net loss of natural resources. In determining whether the proposed activity may result in a net loss of natural resources, the commission may consider mitigation if the commission determines the proposed mitigation in the project vicinity is acceptable. Mitigation may include appropriate measures considered necessary to meet the net loss standard. In determining whether mitigation is acceptable, the commission shall consult with appropriate state, federal and local agencies.

(e) In determining whether it is in the public interest to allocate water for a

proposed hydroelectric development, the commission shall consider present and future power needs and shall make a finding on the need for the power. For a hydroelectric project with a nominal electric generating capacity of 25 megawatts or more, the Water Resources Commission shall consider any recommendation by the Energy Facility Siting Council. The Energy Facility Siting Council's recommendation shall be based solely on information contained in the hearing record of the Water Resources Commission. The commission's order on the proposed hydroelectric development shall describe the Energy Facility Siting Council's recommendations on the need for the power. If the commission's decision on the need for power is contrary to the Energy Facility Siting Council's recommendation, the commission's order shall explain the commission's failure to follow the recommendation of the Energy Facility Siting Council. The commission also shall consult with the Energy Facility Siting Council on other matters within the expertise of the Energy Facility Siting Council.

(2) The commission shall adopt all necessary rules to carry out the policy set forth in ORS 543.015 and to implement the minimum standards set forth in subsection (1) of this section. In the absence of implementing rules, any action of the commission relating to hydroelectric development shall comply with the standards as set forth in this section.

(3) Nothing in this section limits the authority of any state agency to make recommendations regarding appropriate license conditions during the consideration of the issuance of a license or permit for an existing hydroelectric project.”

ORS 543.110 requires: “After February 26, 1931, no right to appropriate or to use the waters of the lakes, rivers, streams or other bodies of water within this state, including water over which this state has concurrent jurisdiction, in connection with the development of any water power project for the generation of electricity, shall be initiated, perfected, acquired or held, except for and during the periods or extensions thereof stated in ORS 543.010 to 543.610, and pursuant to the provisions thereof.”

ORS 543.120 also requires: “After February 26, 1931, no water power project involving the use of the waters of lakes, rivers, streams or other bodies of water within this state, including waters over which this state has concurrent jurisdiction, for the generation of electricity, shall be begun or constructed except in conformity with the provisions of ORS 543.010 to 543.610.”

In addition, the Water Resources Commission has adopted rules set out in Oregon Administrative Rules (OAR) Chapter 690 Division 051 to implement the above statutes. The rules establish definitions, information requirements, filing procedures, hearing requirements, fees and standards for hydroelectric development.¹

¹ Oregon Administrative Rules, Water Resources Department, Chapter 690 Division 51, “Appropriation and Use of Water for Hydroelectric Power and Standards for Hydroelectric Applications, https://secure.sos.state.or.us/oard/displayDivisionRules.action;JSESSIONID_OARD=PE3Si9-kUuJ2SRd66AWvrITeFamZxw-glmccKb9j_8gMH2BKrdY!-1736106524?selectedDivision=3156

II. APPLICATION HISTORY

On May 12, 2010, Swan Lake North Hydro, LLC (Applicant) submitted an application (HE 592), with appropriate fees, for a preliminary permit for a major hydroelectric project. The Department reviewed the application under the procedures of ORS 543 and OAR 690-051. A preliminary permit was issued on February 8, 2011. The preliminary permit required the applicant to perform a groundwater interference test under the direction of a qualified hydrogeologist. The test was performed and the results were reviewed by the Department's staff. The test results and Department's review are a part of the final license application for HE 617 under review herein. The preliminary permit for HE 592 expired in February 2014 without a final license application being filed with the Department.

On July 17, 2014, Swan Lake North Hydro, LLC submitted an application (HE 609), with appropriate fees, for a second preliminary permit for a major hydroelectric project. Again, the Department reviewed the application under the procedures of ORS 543 and OAR 690-051. A preliminary permit was issued on November 24, 2015. The permit expired in November 2017 without a final license application being filed with the Department.

On October 30, 2019, Swan Lake North Hydro, LLC (Applicant) submitted a final license application, with appropriate fees, for the Swan Lake North Closed-Loop Hydroelectric Project (Project) to divert up to 3230 cubic feet per second (cfs) of water from an Upper Reservoir, within the Swan Lake Valley in a closed-loop system with a Lower Reservoir located on Grizzly Butte in Klamath County. The Project would use 1627 to 1720 feet of gross head and 3 variable-speed drive, reversible pump turbines to generate up to 393.3 megawatts (MW) of power for sale to the electrical grid.

The Department determined that the application, maps and information required by ORS 543.010 to 543.290 and OAR 690-051, together with the license issued April 2019 by the Federal Energy Regulatory Committee (FERC) under docket number p-13318, were complete and assigned application number HE 617 to the Project. The Final Environmental Impact Statement prepared by FERC (January 2019) was also included as part of the application materials. The application included a transfer application (T-13280) for change in use of water from an existing well for 424.8 acre-feet of annual maintenance water for the Project. The transfer application is being reviewed under ORS 540.510 to 540.532 and OAR 690-380.

The Project intends to offset all of its impacts to groundwater resources through a mitigation plan that forgoes the use of an equivalent quantity of irrigation water under existing water rights when water is supplied to the Project. This offset is offered for the initial fill of the reservoir as a mitigation plan and as a permanent transfer of rights for the annual maintenance needs. The objective of the hydroelectric appropriation is to have no additional impact on the Swan Lake basalt aquifer. The objective of the license is to require accurate measurement and reporting of water use to ensure that there would be no additional impact on the Swan Lake basalt aquifer.

Notice of open comment period and public hearing was included in the Oregon Water Resources

Department's (OWRD) weekly public notice published on November 5th and 12th, and December 3rd and 10th, 2019. The comment period was open 60 days until January 13, 2020. Notices of open comment period and public hearing were placed in the U.S. mail to the list of neighbors within 1000 feet of Project facilities. An e-mail notice was sent to Klamath Tribes, County of Klamath, and state and federal agencies. Agencies notified included:

Klamath County Board of Commissioners
Oregon Department of Fish and Wildlife (ODFW)
Oregon Department of Environmental Quality (ODEQ)
Oregon Department of State Lands (ODSL)
Oregon Parks and Recreation Department (OPRD)
Oregon Department of Agriculture
Oregon State Historic Preservation Office (SHPO)
OWRD Watermaster, District 17
Legislative Commission on Indian Services
Northwest Power and Conservation Council (NWPPCC)
U.S. Bureau of Land Management (BLM)
U.S. Bureau of Reclamation (Reclamation)
U.S. National Park Service

The notice of open comment period and public hearing was also published in the Klamath Falls *Herald and News* on November 13th, December 3rd and December 10th 2019. Additional notice was provided by U.S. mail or e-mail to persons on the Department's mailing list for the Project.

A public hearing was held at the Oregon Institute of Technology, in Klamath Falls, Oregon on December 16, 2019, at 7:00 PM. The purpose of the meeting was to receive comments on the application and discuss whether the impacts of this Project are such that they might be cumulative with other proposed or existing projects in the Swan Lake Basin. Requests for additional studies related to Project impacts could also be submitted at the hearing. The expected outcome of the public meeting was to determine if additional information was needed about potential Project impacts.

Erik Steimle, a representative of the applicant, gave a presentation on the Project and responded to questions. About 30 members of the public attended the hearing. Informal questions were answered, and public testimony was given and recorded.

Three written comments were received by OWRD by the January 13, 2020, deadline. The Department reviewed the comments and determined that no additional information or studies had been requested nor were necessary to proceed to the next step of noticing the Project as "ready for final review." (OAR 690-051-0095(3)(e)). Department staff responded by letter to the commenters before issuing the next notice. (See Attachment 5, Comments and Responses)

On March 3, 2020, the Department published notice in its weekly public notice that the Project was "ready for final review" and set May 4, 2020 as the deadline date for further comments. Additional notice was provided by U.S. mail or e-mail to persons on the Department's mailing

list for the Project Comments were filed by Bryce Madsen, Janet Neuman for the Applicant, and joint comments were filed by WaterWatch of Oregon and Oregon Wild. (Included in Attachment 5, Comments and Responses).

III. PROJECT DESCRIPTION

The Findings of Fact in the sections below are based on:

Applicant's Final License Application including Exhibit A for the Swan Lake North Pumped Storage Hydroelectric Project dated October 30, 2019, and

FERC Order Issuing License at docket p-13318:

https://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20190430-3099

FERC Final Environmental Impact Statement (Final EIS)

https://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20190125-3006

A. Overview of Proposed Project

The Swan Lake North Pumped Storage Hydroelectric Project (Project) consists of an upper and lower reservoir connected in a closed-loop electric generation system with a total installed capacity of 393.3 megawatts (MWs). It will be located roughly 11 miles northeast of Klamath Falls in Klamath County, Oregon. The reservoir and powerhouse area encompasses approximately 857 acres and stretches from the west side of Grizzly Butte to Swan Lake Rim.

The upper reservoir and its associated features are located on Swan Lake Rim, a high desert plateau rising approximately 1,500 feet above the Swan Lake Valley. The lower reservoir, powerhouse, and open air switchyard are all within the Swan Lake Valley, a 10-mile-long lake basin.

The transmission line right-of-way (ROW) is approximately 32.8 miles long and runs generally southeast from the Project site, west of Dairy and Bonanza, east of Bryant Mountain, to Bonneville Power Administration (BPA)'s Malin Substation. The Project boundary also includes a total of 2.18 miles of temporary access roads outside of the transmission ROW that would be required for construction of the transmission line.

FIGURE 1: PROJECT VICINITY MAP

Attachment 2 to Staff Report

B. New Proposed Reservoirs

The upper reservoir will be located on the western edge of Swan Lake Rim in Section 3, Township 37 South, Range 10 East, W.M. The area will be accessed by improving a private road off of Bliss Road (NF-11). A 7,972 feet long, 15-foot wide perimeter road will be constructed around the upper reservoir. The earthen embankment will be 58 feet high. The reservoir will have a total volume of 3,228 acre-feet. The surface area would be 64.21 acres at maximum fill and 45.87 acres at minimum fill. The spillway crest elevation would be at 6,135.5 feet above mean sea level (AMSL). The volume of the upper reservoir will be 2,568 acre-feet at the maximum operating pool elevation of 6,128 AMSL. The minimum water surface elevation would be 6,084 feet AMSL. Usable storage volume is 2,414 acre-feet. The elevation change in the upper reservoir during normal operations is anticipated to be 44 feet. The bottom and side slopes of the reservoir will be composed of an asphalt concrete facing with a geomembrane liner.

The lower reservoir is located on the plateau at the top of Grizzly Butte. Grizzly Butte is a hill of volcanic origin culminating 295 feet above the bottom of the Swan Lake valley. The area will be accessible from an improved existing access road on private land off of Swan Lake Road. An 8,003 feet long, 15-foot wide perimeter road will be constructed around the lower reservoir. The reservoir will have a total volume of 3,206 acre-feet and live storage capacity of 2,581 acre-feet. The spillway crest elevation would be at 4,464 feet AMSL. The surface area would be 60.14 acres at maximum fill, and 39.89 acre at minimum fill. The bottom and side slopes of the reservoir will be composed of an asphalt concrete facing with a geomembrane liner. A bottom outlet structure will be provided to dewater the lower reservoir in case of emergency. A 25-inch diameter pipe will be installed with a hollow jet valve to slowly release water over several days if necessary to drain the reservoir. The outlet structure will be on the south side of the reservoir away from the powerhouse and access road.

Overflow spillways on each reservoir have been designed to release 3230 cfs of flow, which is the maximum combined release of the three turbines.

C. Penstock and Powerhouse

A bell-mouth intake fitted with a 38.6-foot-wide by 29.8-foot-long inclined screen and head gate will withdraw water from the upper reservoir and deliver it to the powerhouse through the 13.8-foot-diameter, 9,655-foot-long, high-pressure steel penstock that will be predominantly above-ground with a 14-foot-long buried segment.

The powerhouse will partially be buried and will be constructed adjacent to the lower reservoir in Section 16, Township 37 South, Range 10 East, W.M. It will contain three 131.1-MW variable speed reversible pump-turbine units for a total installed capacity of 393.3 MW. Upon entering the powerhouse, the steel penstock will trifurcate to distribute flow to each pump-turbine unit, with flow distribution controlled by a spherical valve located at the intake of the pump-turbine units. Each turbine will discharge into the lower reservoir through a separate 9.8-foot-diameter, 1,430-foot-long steel low pressure penstock that will be predominantly aboveground with a 78-foot-long buried segment.

D. Existing Wells

The initial fill of the lower reservoir will use 3,001 acre-feet of groundwater. It will offset by forbearance of 1040.7 acres of irrigation use under Certificates 29530, 87006 and 92375. Annual maintenance water of 424.8 acre-feet is being requested by a permanent transfer for change of use from 141.6 acres of irrigation use to hydroelectric use under application **T-13280**.²

Sources of water:

Well #1 - Klam 2263, 660 feet North and 1690 feet West from SE Corner Section 9, being within the SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 9;

Well #2 - Klam 2259, 48 feet North and 20 feet East from SW Corner, Section 8, being within the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 8;

Well #3 - Klam 2262, 2020 feet North and 500 feet East from SW Corner Section 8, being within the NW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 8; and

Well #4 – Klam 2260, 3240 feet North and 2670 feet east from SW corner Section 8, being within the SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 8.

All in Township 37 South, Range 10 East, W.M.

E. Transmission Line

Power generated by the Project will be transmitted from the powerhouse through a new adjacent fenced substation and then through a new 32.8-mile-long, 230-kilovolt aboveground transmission line to interconnect with the existing non-project Malin Substation.

F. Roads and Laydown Areas

The Applicant will improve approximately 10.7 miles of existing roads and construct 3.4 miles of new permanent road to access the lower reservoir, upper reservoir, laydown areas, powerhouse, substation and some of the Project transmission towers. The Applicant will also construct approximately 8.3 miles of temporary Project access road to construct portions of the transmission line.

G. Reservoir Fill and Operations Plans

The Project will operate using off-peak energy (i.e., energy available during periods of low electrical demand) to pump water from the lower reservoir to the upper reservoir and generate energy by passing the water from the upper to the lower reservoir through generating units during periods of high electrical demand. Generation timing will be based on on-peak/off-peak power considerations, the need to augment the production of renewable wind and solar power generation, or to provide ancillary power services.

² Oregon Water Resources Department, Water Right Information System, https://apps.wrd.state.or.us/apps/wr/wrinfo/wr_transfer_centric.aspx?transfer_nbr=13280&transfer_char=T

The Project is designed to pump approximately 2,110 acre-feet of water from the lower reservoir to the upper reservoir in approximately 11.5 hours; it will provide a maximum of 9.5 hours of generation per day at maximum generating output. Under typical operations, a full pumping/generation cycle will take about 30 hours (1.2 days) to complete. The maximum water level fluctuation in the upper reservoir will be 44 feet, and in the lower reservoir, it will be 50 feet.

The Project will generate an average of 1.187 gigawatt-hours annually. Further details are available in Exhibits A and B of the Application.

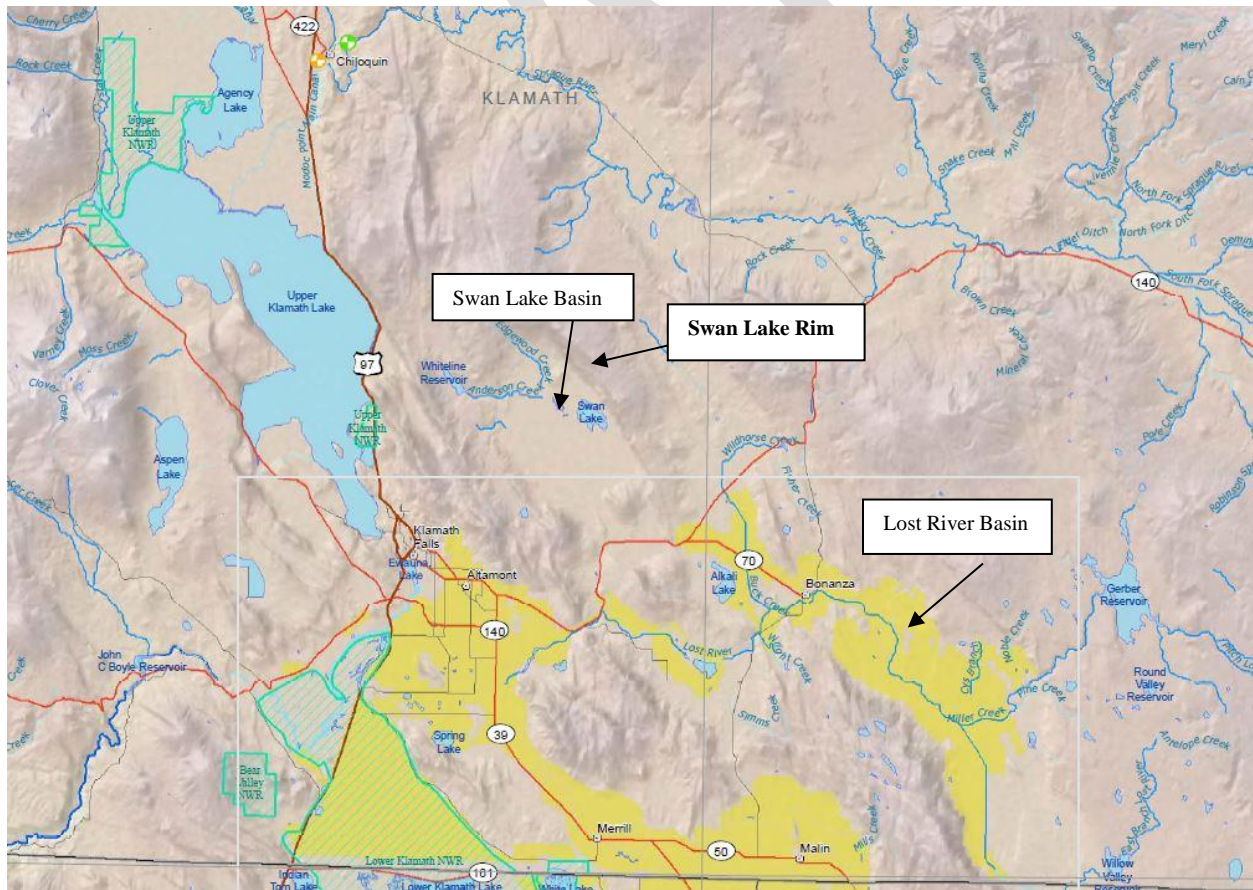
IV. EXISTING, APPROVED AND PROPOSED PROJECTS

In determining whether the impacts of the proposed Project would be cumulative with existing, approved or proposed hydroelectric projects in the same river basin, the Director has made the following findings of fact.

The Project reservoirs and powerhouse will be located in Sections 3 and 16, Township 37 South, Range 10 East, W.M., in Klamath County, Oregon. The Project site is approximately 11 miles southwest of Klamath Falls off of State Highway 140, within the Swan Lake Basin. The transmission lines pass through the Swan Lake and Lost River Basins.

The proposed closed-loop Project does not divert water from a surface water source nor discharge water to a surface water body. Because groundwater use is to be offset by forbearance of existing groundwater uses, no impacts are expected to surface water resources in the basin. According to the Department's records for hydroelectric projects, there are no other approved or proposed hydroelectric projects in the Swan Lake or Lost River basins. Therefore, there is no potential for cumulative effects with other hydroelectric projects in either the Swan Lake or Lost River basins. ORS 543.255, OAR 690-051-0010(32), 690-051-0290.

FIGURE 2: SWAN LAKE AND LOST RIVER BASINS



V. MITIGATION MEASURES

The Findings of Fact in this section are based on Applicant's Final License Application received October 30, 2019; ODEQ's Letter regarding Section 401 Certification of June 2018; the Final EIS issued by FERC January 2019; the FERC License issued April 30, 2019, and various final mitigation plans filed in compliance with the FERC license.

- A. FERC License Article 401. *Reservoir Water Quality Monitoring Plan***
- B. FERC License Article 402. *Hazardous Substances Spill Prevention and Cleanup Plan***
- C. FERC License Article 403. *Wildlife Habitat Restoration and Enhancement Plan***
- D. FERC License Article 404. *Revegetation and Noxious Weed Management Plan***
- E. FERC License Article 405. *Avian Protection Plan***
- F. FERC License Article 407. *Ungulate Protection Plan***
- G. FERC License Article 408. *Sensitive Plant Survey Plan***
- H. FERC License Article 412. *Fire Prevention Plan***
- I. FERC License Article 417. *Programmatic Agreement and Historic Properties Management Plan***
- J. FERC License Article 306. *Public Safety Plan***

VI. WATER RESOURCES MITIGATION PLAN

Water Use Measurement, Recording, and Reporting Condition:

Static Water Level Condition:

Other Groundwater Conditions

VII. RESOURCE STANDARDS

The proposed Project together with the recommended measures to protect, mitigate or enhance the natural resources of the State must be sufficient to meet the standards of ORS 543.017, 543.225, and OAR 690-051-0160 through 690-051-0290. Through the FERC license and Final EIS, the Applicant has provided sufficient evidence to OWRD of pre-application consultation with the agencies listed in OAR 690-051-0060.

Natural resources on which the public interest standards are considered are listed in OAR 690-051-0170 through 690-051-0290.

- A. Protection of Designated Resource Areas and Special Management Areas (OAR 690-051-0170)**
- B. Mitigation, No Net Loss (OAR 690-051-0180)**
- C. Water Resources (OAR 690-051-0190)**
- D. Fish Resources (OAR 690-051-0200)**
- E. Wildlife (OAR 690-051-0210)**
- F. Plant Life (OAR 690-051-0220)**
- G. Recreation (OAR 690-051-0230)**
- H. Historic, Cultural, and Archaeological Resources (OAR 690-051-0240)**
- I. Land Resources (OAR 690-051-0250)**
- J. Land Use (690-051-0260)**
- K. Need for Power (690-051-0280)**

The Applicant described the electricity market and need for power in its application (page 10) for this Pumped Storage Hydro Project (PSH).

“The proposed use or market for the power to be developed is: Oregon and Washington State Utilities including, but not limited to, Portland General Electric, PacifiCorp, and Avista. The successful integration of large amounts of wind and solar power to the existing electric generation system in the Pacific Northwest and California will increasingly depend on the ability to store large amounts of renewable energy on a daily basis so that it can be dispatched on demand when and where it is needed. PSH is the most economical bulk energy storage solution to create greater energy efficiencies in the face of the following challenges presented by other forms of renewable energy:

- *Storing renewable energy and absorbing over-generation:* PSH facilities can store large amounts of surplus energy for later distribution and use when needed, a feature that is particularly valuable during periods when solar and wind power production exceeds demand.
- *Meeting peak demand:* PSH resources are uniquely suited to releasing stores of renewable energy over long durations during periods of peak demand.

- *Capturing oversupply of California solar power:* PSH can support the efficient storage of large amounts of California solar power for delivery to Pacific Northwest consumers at times of peak demand.
- *Minimizing curtailment and transmission congestion:* Renewable resources are often located in remote areas with limited transmission. When transmission lines become congested, renewable generation sources are forced to curtail their production. PSH acts as a buffer, optimizing the use of existing transmission lines and minimizing strain on the electrical grid, thereby reducing the need for transmission upgrades.

In addition, PSH can provide most (if not all) of the grid reliability services currently provided by fossil fuel-fired power plants, such as primary frequency and voltage response. These ancillary services are critical to maintaining a reliable electricity grid. For these reasons, PSH is the best available bulk energy storage technology for supporting renewables integration.”

FERC considered the Need for Power in its licensing decision. It found:

“The Swan Lake North Pumped Storage Hydroelectric Project will be located in the Northwest Power Pool, United States area (NWPP). The power generated from the Project will also be sold to utilities located within the California area (CAMX). Both areas are sub-regions of the Western Electricity Coordinating Council, a region of NERC. According to NERC’s 2017 forecast, average annual demand requirements are projected to grow at a rate of 0.6 percent over the next 10 years for the NWPP sub-region and 0.3 percent of the next 10 years for the CAMX sub-region. Based on this, the Project’s power and contribution to the region’s diversified generation mix will help meet a need for power in the region.”³

The North American Electric Reliability Corporation (NERC) prepared its “2019 Long-Term Reliability Assessment” (LTRA). The report states that the projected 10-year demand growth rate for the Northwest Power Pool (NWPP) is 0.6% and for California is 0.5%.⁴ (pg 40)

The Oregon Department of Energy in its “2018 Biennial Energy Report” stated that “Energy storage systems deliver a wide range of benefits. These systems can capture surplus carbon-free generation during times of the day or year when more electricity is being generated than can be consumed at the time. These systems can help maintain grid stability and allow utilities or individual customers to take advantage of lower prices during certain parts of the day. Finally, some of these systems play a key role in helping to provide resilient back-up power.”⁵

³ FERC, “Order Issuing Original License”, Swan Lake North Hydro LLC, Project No. 13318-003, April 30, 2019, pg. 45. https://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20190430-3099

⁴ North American Electric Reliability Corporation (NERC), “2019 Long-Term Reliability Assessment (LTRA), pg 40, https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_LTRA_2019.pdf

⁵ Oregon Department of Energy, 2018 Biennial Energy Report, chapter 1-Page 33 <https://www.oregon.gov/energy/Data-and-Reports/Documents/BER-Chapter-1-Energy-Numbers.pdf>

The International Energy Agency published a White Paper in October 2019, discussing “Flexible hydropower providing value to renewable energy integration.” The authors state:

“As increasing shares of variable renewable energy sources (VRE) are integrated into electricity systems, the need for flexibility and energy storage at timescales ranging from milli-seconds to months arise. Hydropower is the largest source of renewable energy today, with hydropower and pumped hydro storage playing an important role in integrating and balancing VRE.”⁶

In addition, the Applicant has provided evidence that it has signed a Large Generator Interconnection Agreement (LGIA) with PacifiCorp (Attachment 3).

The Department consulted with the Energy Facility Siting Council (Council) as required under ORS 543.017(e) concerning the Need for Power information in the record. On **Date XXXX**, the Council stated for the record: _____

Conclusion: Based on these findings the Department concludes that _____

⁶ “Flexible hydropower providing value to renewable energy integration.” , IEA HYDRO ANNEX IX // WHITE PAPER NO 1 - OCTOBER 2019, pg 2

https://www.ieahydro.org/media/51145259/IEAHydroTCP_AnnexIX_White%20Paper_Oct2019.pdf

L. Consolidated Review (690-051-0290)

VIII. PUBLIC INTEREST DETERMINATION ORS 543.225(3)

ORS 543.017 MINIMUM STANDARDS

IX. SUMMARY

1. Application HE 617 is a proposed major hydroelectric project greater than 25 MW, in Klamath County, Oregon. Application HE 617 was determined to be complete and is eligible for a priority date of October 30, 2019.
2. A public hearing was conducted on December 16, 2019, in Klamath Falls, for a license for this major Project. Notice of the public hearing was given.
3. No competing applications were filed for this Project.
4. There are no other existing or proposed hydroelectric projects in the Swan Lake or Lost River basins at this time.
5. Mitigation plans have been prepared for all of the potential impacts to natural resources. As required by FERC, the plans are under review by ODFW and FERC under the terms of the FERC license p-13318.
6. The Department has consulted with the Energy Facility Siting Council on the need for power and has requested its **recommendations** . . .
7. Oregon Department of Environmental Quality has provided a statement that because the Project will not likely result in any discharge to navigable waters that a water quality certification under Section 401 of the Clean Water Act is not required.⁷

X. PROPOSED CONCLUSIONS OF LAW

XI. PROPOSED ORDER

XII. PROTESTS

⁷ Letter from Eric Nigg, Manager, DEQ Eastern Region Water Quality, ODEQ, June 19, 2018, (Application Appendix 4)